THREAT INTELLIGENCE REPORT

The China Threat, In Brief

By Adam Hlavek

Introduction

Over the past two decades, the People's Republic of China has capitalized on the global connectivity of the internet age in ways no other nation has. Once regarded as a "second-tier" cyber power, China has aggressively and consistently built its national cyber program to the point where it is now considered one of the world's preeminent cyber players. A recent study ranked China as a "Most Comprehensive Cyber Power," second only to the United States. The ruling Chinese Communist Party (CCP) used a multi-pronged strategy to achieve this remarkable ascent, prioritizing computer science and technology education within China and creating a pipeline of talent for cyber military operations.

As the Chinese military and intelligence apparatus became more cyber-capable, units within the People's Liberation Army and contractors operating on behalf of the Ministry of State Security embarked on a systematic cyber espionage campaign. China obtained sensitive information held by foreign governments and stole intellectual property for cutting-edge technologies across numerous sectors by leveraging cyber alongside traditional intelligence collection methods and various forms of economic espionage. The campaign has, by any measure, been immensely successful.

China has directly utilized the information it has obtained via cyber espionage to improve its military capabilities. It has also used ill-gotten trade secrets to help its commercial companies compete on the global stage. Chinese corporations have been particularly successful at generating business in the developing world, building partnerships and promoting Chinese brands throughout Africa and the Middle East. Telecommunications giants Huawei and ZTE, for example, have already gained significant market share in Africa, partially due to multi-faceted support from the Chinese government. However, the prospect of having Chinese hardware built into telecommunications systems, particularly the emerging 5G cellular networks, has raised significant concerns over potential cyber espionage within the U.S. government. These concerns prompted the United States to ban the use of 5G technology from Chinese manufacturers within its borders and they have encouraged allies to do the same.

Following years of seeking parity with the Western world, China's leaders now seek to surpass their global and regional rivals and truly establish the China as the preeminent global superpower. China's near-term national strategy, the 14th Five Year Plan, released in October 2020, aims to reduce the country's reliance on foreign technology and build out domestic high-tech production capabilities. As evidenced by the numerous examples that follow here, cyber espionage will no doubt remain a centerpiece of the Chinese strategy to achieve these goals.

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China's Strategic Goals

1. Cement Status as a Great Power

In the early days of Commust rule, China lacked the military might or economic prosperity of superpowers like the United States or regional rivals like Japan. Following decades of power struggles and major societal upheavals resulting from World War II, the split with Nationalist Taiwan, and the subsequent Cultural Revolution, the party's leaders became determined to remake China into a modern and prosperous nation, seeking to reassert China as a global center of influence and prestige.

After having fully transitioned to a quasi-capitalist, industrialized superpower, current Chinese President Xi Jinping has sought to accelerate this transformation. Under Xi, China has simultaneously increased its participation in international organizations and sought to broadly export its goods, services, and values abroad. The most notable examples of this are the Belt and Road Initiative, which seeks to create a vast land and sea infrastructure network connecting numerous cities and nations across East Asia and Europe, and the Made in China 2025 campaign, which aims to make China the preeminent global producer and seller of high-technology goods. In 2017, China also unveiled its National Artificial Intelligence Plan, which seeks to make it the "world's major AI innovation center" by 2030.

Historical Cyber Examples:

- Internet Governance Initiatives
- Technology Investment and Partnerships in the Developing World

Recent Cyber Examples:

- 2020: Technology Investment Initiative

2. Preserve Communist Party Control and Quell Dissent

Despite the quasi-capitalist structure of modern China, the Chinese Communist Party represents the unquestioned center of power within Chinese society. In a distinct contrast with Western democracies, the CCP views domestic stability and the spread of anti-government sentiment as national security issues no different from foreign threats. Throughout his time as President and General Secretary, Xi Jinping has sought to consolidate his power and systematically increase control over dissenters, minority groups, and independence movements within mainland China and their supporters abroad.

To accomplish this, the Chinese state has institutionalized censorship and surveillance, investing heavily in technologies designed to limit free speech across China's portion of the internet and establishing a variety of electronic surveillance programs. These tools are most frequently trained upon China's most marginalized populations, including the Muslim Uyghirs of Xinjiang Province and the Tibetan independence movement, as well as domestic critics of the regime and high profile foreign visitors of interest to Chinese security services.

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To ensure their control of the flow of information and to make the nation's infrastructure more defensible, China's leadership chose to connect the country to the internet in a manner unlike nearly any other nation. With key exchange and peering points required to physically reside within Chinese territory, the government has the ability to quickly isolate its networks from the outside world should it choose to do so.

Historical Cyber Examples:

- Institutionalized Censorship of the Internet
- Electronic Surveillance of Religious Institutions

Recent Cyber Examples:

- RedDelta
- Great Firewall "Enhancements"
- Android Surveillanceware Campaigns

3. Establish Military, Political, and Economic Preeminence within APAC Region

Second only to the CCP's desire to maintain internal stability within mainland China is the People's Republic of China's determination to cement itself as the dominant power within the Asia Pacific region. Japan, South Korea, and Taiwan have long represented economic and political competitors, but emerging markets in developing Southeast Asian nations also challenge China's economic dominance. The presence of U.S. military forces in Japan and South Korea, China's decades-long stand-off with Taiwan, and tensions surrounding the ever unpredictable North Korean regime also present military challenges to China's primacy throughout the region.

China's desire to exert control over the South China Sea represents one of the more concerning flashpoints brought about by this longstanding goal to become a dominant world power. The South China Sea boasts significant fossil fuel deposits and represents a critical trade route for many countries in the region. As such, multiple nations have laid claims of territorial sovereignty over portions of its waters. In an aggressive bid to undermine such claims, China has undertaken a massive effort to build multiple military outposts in the Spratly and Paracel Islands and has gone so far as to create new and artificial islands to bolster its own position and send a message to those who would challenge them.

As is often the case, the China has leveraged cyber operations to collect information on its competitors in the region. This has extended to governments, businesses, and civil society, as evidenced by several of the threat campaigns described in more detail on the following page.

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Historical Cyber Examples:

- 2018: BRONZE PRESIDENT Targeting of NGOs and Political Organizations

Recent Cyber Examples:

- 2018-2020: Targeting of Southeast Asian Governments
- 2019 - 2020: Influence Operations Targeting Hong Kong and Taiwan
- Operations Targeting Taiwanese Government
- Operation Chimera / Operation Skeleton Key
- Targeting of Malaysian Government Officials

4. Achieve Military and Technological Parity with Western Rivals

China has long sought to establish military parity with the United States and its long time allies Australia and New Zealand. Following World War II and the Korean War, the U.S. had established a significant military presence across the Pacific. CCP leadership was keenly aware that China lacked the technological and economic might of the world's superpowers despite China's vast territory, burgeoning population, and natural resources.

At the dawn of the internet age, CCP leadership saw an opportunity to level the playing field and embarked on an unprecedented, decades-long campaign to obtain that parity through the deliberate theft of intellectual property across a myriad of technologies. Cyber espionage became the centerpiece of those efforts, which proved to be devastatingly effective. There are multiple examples, going back over a decade, of Chinese theft of U.S. and other foreign military technology via cyber espionage, including missile systems, aircraft, and naval vessels, among others. To further facilitate these goals, Chinese intelligence entities have also sought to aggressively obtain information on members of Western governments, militaries, and contractors, and have collected huge swaths of data on American citizens following successful penetrations of organizations like the U.S. Office of Personnel Management (OPM) and the Equifax credit bureau.

Such operations have not been confined to military technologies or government entities. The recent pandemic provides yet another example of Chinese attempts to illicitly obtain intellectual property. In May of 2020, a joint announcement from the FBI and CISA indicated that China-sponsored actors had compromised U.S. organizations conducting COVID-19 research.

Historical Cyber Examples:

- 2003-2007: Titan Rain Intrusions
- Advanced Weapons System Breaches
- 2014: OPM Breach

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Recent Cyber Examples:

- 2018: Compromise of U.S. Navy Contractor
- 2020: Targeting of COVID-19 Research Organizations
- 2020: MSS Hackers Targeting Intellectual Property

Recent Chinese Threat Campaigns

To summarize the threat at a more tactical level, the following sections highlight several of the most recent and notable Chinese state-sponsored campaigns uncovered by cybersecurity researchers. Each section identifies a sample of the countries and sectors targeted by a given group, and the behaviors or tactics, techniques, and procedures (TTPs) utilized to succeed in their objectives. Footnotes provide links to further, more detailed, reading.

BlackTech

Overview

BlackTech is a threat group known primarily for conducting cyber espionage operations against targets in East Asia, with a focus on Taiwan and Japan. The group has likely been active for a number of years and is responsible for several separate campaigns leveraging overlapping infrastructure. BlackTech often abuses legitimate software tools and processes to achieve its goals, using stolen digital certificates and API hooking among other techniques.

Recent Activity

Recent reporting confirms that BlackTech remains active and has continued to develop new custom malware. Researchers at Symantec, who track this group as Palmerworm, noted BlackTech activity throughout 2019 and 2020 with the group leveraging new strains of malware to target multiple sectors in Taiwan, Japan, and China.

To date, no private sector cybersecurity companies have publicly attributed activity to BlackTech. However, in August of 2020, the Taiwanese government asserted that the group was working on behalf of the Chinese Communist Party and had been involved in cyber operations targeting multiple Taiwanese government and commercial entities.

Known Targets	Technology, engineering, finance, and government sectors in Taiwan, Japan, Hong Kong, and the U.S., with a focus on East Asia.

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Sample TTPs	Various custom backdoors, including the well-documented PLEAD (also tracked as TSCookie).
	Deployment of PLEAD using compromised legitimate software, potentially via compromised routers and man-in-the-middle attacks.
	Use of legitimate system tools (Putty, PSExec, etc.) for malicious purposes (i.e., "living-off-the-land" tactics).
	Use of the DLL-hijacking Waterbear modular malware.
Also Known As	Palmerworm, CIRCUIT PANDA

APT41/Winnti

Overview

APT41 represents one of the most prolific Chinese state-sponsored threats. Incarnations of APT41 began to appear in the early 2010s, and the group is believed to have been behind intrusions into a wide variety of sectors, including the healthcare, pharmaceutical, telecommunications, and video game industries, with victims on nearly every continent. Over the years, the group has leveraged a variety of custom malware, including a Trojan that came to be known as Winnti.

The group is probably best known for a series of software supply chain attacks where the threat actors obtain access to software provider systems and inject malicious code into the victim's legitimate software, often managing to distribute the poisoned software through the victim's established channels. Such attacks are especially challenging to detect and mitigate from a consumer perspective, as end users and system administrators invariably trust software that has been downloaded directly from the publisher. Notably, some of the individuals comprising APT41 appear to have engaged in not just state-sponsored espionage, but have also dabbled in operations designed to reap personal financial gain.

There is notable overlap and a significant lack of clarity within the commercial cybersecurity community on precisely which groups are behind the many intrusions that have been lumped together under the Winnti umbrella. Some notable software supply chain attacks that have been potentially linked to the group by various cybersecurity researchers include the CCleaner, NetSarang, and Asus Live Update compromises. Given the history of software tool sharing amongst Chinese threat actors and the likelihood that multiple state-sponsored actors are targeting similar sets of victims, it becomes quite difficult to parse exactly which group may be behind a given intrusion, especially given the limited visibility that any one victim or vendor may have. In any case, the overarching tactics and targets described above can safely be ascribed to Chinese cyber operators, regardless of how specifically each discrete intrusion can be attributed.

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Recent Activity

Another large-scale APT41 campaign occurred in early 2020, once again affecting a wide variety of industries in multiple global regions. The operators appeared to be systemically leveraging a number of recently identified high severity vulnerabilities, specifically in Cisco routers, Citrix infrastructure devices, and Zoho ManageEngine Desktop Central, an endpoint management software tool. Notably, the Citrix and Zoho vulnerabilities were also highlighted in a recent NSA advisory detailing public technical vulnerabilities known to have been actively exploited by Chinese state-sponsored actors.

The U.S. Department of Justice (DOJ) also shone a light on APT41 in September of 2020, unsealing three indictments that brought charges against five Chinese nationals and two Malyasians for a sweeping series of network intrusions. The DOJ linked the activity to a Chinese company known as Chengdu 404 Network Technology, which likely operates at the behest of the Chinese Ministry of State Security. The indictments stated that the hackers were responsible for intrusions across over 100 victim organizations in numerous countries. One of the indictments charged the two Malyasian individuals with profiting from information stolen from video game companies that was provided to them by Chinese actors. Both men were apprehended by Malaysian authorities. The operators apparently also participated in ransomware and crypto-jacking attacks, which highlight the type of for-profit criminal endeavors the group has undertaken apart from their more traditional information gathering operations.

Known Targets	Numerous sectors, including healthcare, media, and video games Multiple countries including the U.S., Japan, South Korea, India, Australia, and the U.K.
Sample TTPs	Software supply chain attacks which modified legitimate software to facilitate intrusions against the software's customers.
	Use of stolen digital certificates to sign malware.
	Command and control (C2) dead drops leveraging seemingly legitimate web pages to surreptitiously pass encoded instructions to deployed malware.
	Exploitation of remote access or internet facing services to gain initial access to victim networks.
Also Known As	Barium, Winnti, Wicked Panda, Wicked Spider

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APT40

Overview

Likely active since at least 2013, APT40 is a Chinese threat group with a predominant focus on nations and issues related to the South China Sea, a region China has claimed territorial sovereignty over despite numerous disputes. The group has repeatedly targeted shipbuilding, maritime, and engineering entities, as well as government and academic institutions within multiple countries bordering the South China Sea. The group has leveraged a variety of malicious software, including publicly available tools such as Cobalt Strike and custom tools, some of which overlap with other known Chinese groups. Analysis of data obtained from APT40 infrastructure showed malware administrators accessing the group's servers from Hainan, China, which strongly suggests Chinese state sponsorship when coupled with the group's targeting patterns.

Recent Activity

Recent analysis released by Microsoft indicates that APT40 threat actors have on multiple occasions attempted to use cloud-native services within Azure to conduct malicious C2. Although the activity was identified and disrupted, the threat actors appear to have specifically designed malware to abuse proprietary cloud services including the Outlook Task API, OneDrive API, and Microsoft Graph API.

APT40 was also among the Chinese groups Taiwan publicly accused of targeting multiple Taiwanese government agencies, alongside BlackTech, Mustang Panda, and other groups. This coincides with particularly aggressive Chinese cyber targeting of Taiwan's technology sector witnessed over the past couple years. Early 2020 also saw the Malaysian Computer Emergency Response Team (CERT) issue an advisory linking APT40 to an espionage campaign targeting Malaysian government officials.

Known Targets	U.S., Western Europe, Cambodia, Malaysia, and Taiwan with a focus on engineering, healthcare, government, maritime, and academic sectors.
Sample TTPs	Highly targeted spearphishing
	Frequent use of web shells (such as China Chopper) and common web protocols for C2
	Use of legitimate remote services such as SSH and RDP to conduct reconnaissance and move laterally within victim networks
	Attempts to abuse proprietary Microsoft Azure cloud services
Also Known As	GADOLINIUM, Leviathan, TEMP.Periscope

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Mustang Panda

Overview

Mustang Panda is a Chinese state-sponsored threat group with a history of targeting various NGOs (non-governmental organizations), minority groups, and political entities within the Southeast Asian region. The group has also been noted targeting Western think tanks and NGOs with a nexus to Chinese minority groups. The group has likely been active since at least 2017.

Mustang Panda frequently relies on phishing lures centered around themes directly relevant to their targeted victims. These lures use official-looking documents written in the target's native language and containing information that would prompt the victim to open the attached document. These decoy documents frequently contain a .zip archive that executes a malicious loader when opened. This leads to the installation of the venerable PlugX malware or a Cobalt Strike Beacon.

Recent Activity

In the summer of 2020, Recorded Future reported newly identified activity related to Mustang Panda, which they track as RedDelta. Notably, the group targeted a number of organizations related to the Catholic Church. The researchers surmised that this activity was likely connected to the renewal of an agreement between the Vatican and the CCP and was likely designed to provide insights into the upcoming negotiations (a tactic often used by the Chinese government in political or business contexts).

Despite the campaign being identified in this way, it appears the threat actors resumed activity within days of the RedDelta report's publication. Additional research shows the group has remained active into Fall 2020 and has updated the malware loader they use to install their favored PlugX Remote Access Trojan (RAT).

Known Targets	Government entities, NGOs, and religious organizations in Mongolia, Hong Kong, Vietnam, Burma, India, and Pakistan; NGOs and think tanks abroad with a nexus to Southeast Asia and Chinese minority groups.
Sample TTPs	Use of multiple versions of the PlugX and Poison Ivy malware shared amongst Chinese threat actors.
	Infection chains delivering .zip files containing Windows Shortcut (.lnk) files, which in turn execute malicious code leading to the installation of PlugX or Cobalt Strike.
	The use of DLL side-loading tactics to install malicious software.
Also Known As	RedDelta, TA416, BRONZE PRESIDENT

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TA410

Overview

In July 2019, several U.S. utility companies were targeted with a well-designed spearphishing campaign that impersonated a legitimate engineering licensing board to deliver the LookBack malware. This campaign was attributed to a group tracked as TA410, who proceeded to conduct a follow-on campaign once again targeting U.S. electric utilities in August of that year. Later media reports indicated that several smaller, regional public power utilities were among those targeted and that some were apparently unaware they had been targeted at all until they were informed by the FBI.

Recent Activity

Additional analysis later linked the LookBack phishing campaigns to another malware family dubbed FlowCloud. These two campaigns share a number of tactics, including the timeframes they were active, the use of malicious attachments contained in phishing emails, the installation techniques used, and overlapping infrastructure. Like LookBack, the FlowCloud campaign appears to have targeted victims in the utilities sector using well-crafted phishing emails impersonating professional organizations within the industry such as the American Society of Civil Engineers.

Notably, the researchers investigating TA410 identified similarities to the tactics used by TA429 (also known as APT10, listed on the following page). However, it is not fully clear whether the two groups' activity is truly related or whether this may have been a deliberate attempt by those responsible to plant "false flags" to help hide those behind the campaigns. The attempt to hide the campaign actors makes sense especially given the widespread media attention focused on APT10 due to the publication of multiple reports on the group and a related U.S. indictment of Chinese actors.

Known Targets	U.S. electric utilities
Sample TTPs	Sophisticated spearphishing
	Use of Microsoft Office documents with embedded malicious VBA macros
	Reconnaissance scanning against targets (specifically SMB)
Also Known As	None known

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APT10

Overview

APT10 is a prolific and long-standing Chinese state-sponsored threat actor that has been active since at least 2006. The group's focus appears to be access enablement, providing inroads to support commercial and economic espionage against regional and international competitors including Japan, the United Kingdom, and the United States. Like so many threat groups, APT10 has historically used spearphishing tactics to gain initial footholds on victim networks. The operators then rely upon a combination of custom and publicly available hacking tools to move laterally throughout victim networks and establish persistence.

In 2017, details surrounding an APT10 campaign known as Operation Cloud Hopper came to light. The campaign focused on compromising IT managed service providers (MSPs), which are businesses that remotely manage IT infrastructure on behalf of their clients. Compromising these MSPs provided APT10 actors with access to the service providers as well as their customers. The MSPs' connections to their customer environments were at times used by APT10 to exfiltrate data from within customer environments. 2018 indictments by the U.S. Department of Justice revealed that those behind these campaigns worked for a company operating at the behest of the Ministry of State Security's Tianjin State Security Bureau. Later media reporting revealed just how widespread and successful this strategy had been, as several major MSPs appear to have been victimized by the group over the span of several years.

Additional reporting in 2019 asserted that APT10 actors had penetrated at least ten telecommunications or cellular provider companies across the globe in a campaign dubbed Operation Soft Cell. During this campaign, APT10 operators appeared to have been targeting Call Detail Records, which contain metadata regarding individual mobile subscribers including information such as device identifiers, locations, and call history. Such information would be considered highly useful to a foreign intelligence service and fits with APT10's history of facilitating access to sensitive datasets.

Recent Activity

Recently published research details continued cyber espionage activity being conducted by APT10 operators. This latest research provides evidence of yet another large-scale intrusion campaign targeting multiple global regions and sectors between Fall 2019 and Fall 2020. Most of the victims appear to have a connection to Japanese companies, with the automotive, pharmaceutical, and engineering sectors among those targeted. The campaign once again went after MSPs, the group's most favored target. During the campaign, APT10 was observed using a variety of dual-use and custom malware, extensively using DLL side-loading techniques to execute their malware and exploiting the recently publicized ZeroLogon vulnerability affecting Microsoft Windows systems.

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Known Targets	Telecommunications, defense, construction, engineering, aerospace, and government sectors (among others) in the U.S., Europe, and Japan with a consistent focus on MSPs.
Sample TTPs	Spearphishing using malicious attachments
	DLL side-loading techniques
	Use of publicly available, quasi-legitimate remote access tool Quasar
	Use of various shared Chinese malware families, including Poison Ivy and PlugX
	Persistent targeting of MSPs for use as conduits to their customer networks
Also Known As	TA429, Menupass, Red Apollo, Stone Panda, Cicada

In Summary

As evidenced by the numerous examples of Chinese cyber campaigns waged against commercial, government, and nongovernmental entities around the world, it is clear that China has made cyber espionage a hallmark of its global strategy. Chinese leadership has focused massive resources on building out their nation's cyber capabilities to both secure the Communist Party's preeminence within the country and project power beyond its borders. Organizations working in an immensely broad number of fields have been targeted, ranging from renewable energy to nanotechnology to human rights. These broad and persistent targeting patterns are likely to continue the years to come.

Chinese tactics, techniques, and procedures have grown in sophistication as well. Once well known for executing "smash and grab" operations seeking to simply steal large amounts of data from their victims as quickly as possible, Chinese threat groups have since evolved. As the case studies above highlight, Chinese threat actors now seek new and novel ways to execute their attacks and hide them from network defenders. Innovation and collaboration have thus become paramount for defenders to identify and prevent such threats.

IronNet's mission is to provide companies, sectors, and nations with the cutting-edge tools required to defend against sophisticated threats in cyberspace. The behavioral analytics and threat intelligence built into our IronDefense platform provide the unique insights required to detect advanced threat actors, while our IronDome Collective Defense solution allows organizations to collectively defend against such threats using machine-speed correlation of data. We believe that technological innovation and collaboration amongst those seeking to secure cyberspace can ultimately overcome those seeking to divide and exploit it.

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SECTION 3: CHINESE INTELLIGENCE SERVICES AND ESPIONAGE THREATS TO THE UNITED STATES

Introduction

The United States faces a large and growing threat to its national security from Chinese intelligence collection operations. Among the most serious threats are China's efforts at cyber and human infiltration of U.S. national security organizations. These operations are not a recent phenomenon, but reports of Chinese espionage against the United States have risen significantly over the past 15 years.[1] The threat from Chinese intelligence operations also extends overseas. For example, China's growing technical intelligence* collection capabilities are increasing its ability to monitor deployed U.S. military forces. Moreover, by infiltrating and attempting to infiltrate defense entities in U.S. ally and partner countries, China could affect U.S. alliance stability and indirectly extract sensitive U.S. national defense information. Meanwhile, the national security implications of Chinese intelligence collection operations have grown amid U.S.-China competition and Beijing's expanding military might.

This section examines the threat to U.S. national security from Chinese intelligence collection. It discusses the structure, role, capabilities, process, and operations of China's intelligence services; U.S. responses to Chinese espionage; and the implications of Chinese intelligence collection for U.S. national security.

China's Intelligence Services

China's intelligence community includes Chinese government, People's Liberation Army (PLA), and Chinese Communist Party (CCP) institutions that target U.S. national security organizations. The following are descriptions of these organizations and their roles within China's intelligence community. In all cases, the top priority for these organizations is to support and preserve the CCP-led Chinese party-state.[2]

Ministry of State Security

The Ministry of State Security (MSS) is a Chinese government ministry answerable to both China's State Council—the chief administrative authority of the Chinese government—and the CCP Politburo Standing Committee.[3] According to Peter Mattis, fellow at the Jamestown Foundation, the MSS "is not unlike an amalgam of [the U.S. Central Intelligence Agency] and [the U.S. Federal Bureau of Investigation]."[4] The MSS conducts a variety of intelligence col-

*"Technical intelligence" here refers to signals, imagery, electronic, and measurements and signatures intelligence.

lection operations, such as human intelligence (HUMINT) and cyber operations.[5]

PLA Intelligence

PLA intelligence is responsible for collecting foreign military, economic, and political intelligence* to support military operations.[6] The PLA—with its subsidiary units responsible for intelligence collection—answers to China's Central Military Commission (CMC), China's leading military authority, which is dual-hatted as a Chinese government organization and a CCP organization.[7] PLA intelligence organizations conduct HUMINT operations, as well as technical intelligence collection operations, to include cyber operations.[8]

Reforms to PLA Intelligence

Since late 2015, China has initiated several reforms to the structure of the PLA† that have reshaped major elements of PLA intelligence. Although much is unknown about these reforms, some information has emerged that gives insight into the evolution of PLA intelligence.

New PLA Agencies

In January 2016, Chinese President and General Secretary of the CCP Xi Jinping announced the reorganization of the PLA's four general departments (the general staff, political, logistics, and armaments departments) into 15 new agencies under the CMC.[9] The PLA General Staff Department, which had been the primary authority for PLA foreign intelligence collection, was reorganized into the new Joint Staff Department; however, it is still unclear whether the newly created Strategic Support Force or the Joint Staff Department will take on the former General Staff Department's supervisory responsibilities for intelligence activities.[10]

Before the dissolution of the General Staff Department, the most prominent PLA organizations responsible for foreign intelligence collection were the second, third, and fourth departments of the General Staff Department. The Second Department (2PLA) was responsible for the collection and analysis of HUMINT, imagery intelligence, and tactical reconnaissance.[11] The Third Department (3PLA) was responsible for collecting signals intelligence and conducting cyber operations.[12] According to John Costello, fellow at think thank New America, 3PLA was "roughly equivalent to the U.S. National Security Agency in function and mission."[13] The Fourth Department (4PLA)—responsible for electronic warfare and electronic countermeasures—surveilled foreign information networks.[14] In addition, theater-level PLA Army, Navy, Air Force, and missile forces contained intelligence units that mirrored the structure of General Staff Department intelligence units.[15] It is unclear how elements of PLA intelligence under the former General Staff Department will be reorganized within the new Joint Staff Department.

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*Political intelligence is intelligence concerned with the dynamics of the internal and external political affairs of foreign countries, regional groups, multilateral treaty arrangements, and organizations and foreign political movements directed against or having an impact on established governments or authority. Bruce W. Watson, Susan M. Watson, and Gerald W. Hopple, *United States Intelligence: An Encyclopedia*, Garland Publishing, Inc., 1990, 447.

†For more information on recent PLA reforms, see Chapter 2, Section 1, "Year in Review: Security and Foreign Affairs."

Strategic Support Force

In December 2015, President Xi announced the formation of the Strategic Support Force, a new branch of the PLA.[16] According to Song Zhongping, a professor at the PLA Rocket Force Equipment Research Academy and former PLA Second Artillery Force officer, the Strategic Support Force will consist of cyber forces "focusing on attack and defense," space forces "focus[ing] on reconnaissance and navigation satellites," and electronic warfare forces focusing on "jamming and disrupting enemy radar and communications."[17] This suggests the Strategic Support Force will take on and centralize some intelligence collection missions and processes previously spread among various elements of the PLA. It is likely that the former 3PLA and 4PLA will be subordinated to the Strategic Support Force.[18]

New Theater Command Structure

In February 2016, President Xi announced the reorganization of China's seven military regions into five "theater commands."[19] The structure of theater- and tactical-level military intelligence before and after this reorganization is difficult to discern using open sources, but it appears the PLA is moving toward greater jointness and integration of the intelligence collected by various military services to inform military decision makers.*[20]

Other Chinese Intelligence Services

Several other actors in the Chinese intelligence community collect foreign intelligence. The following are two notable examples of these organizations. Both have conducted influence operations in addition to intelligence collection operations.[21]

PLA General Political Department International Liaison Department

In addition to the PLA's primary military intelligence forces under the former General Staff Department, before the dissolution of the PLA's four general departments, the PLA General Political Department International Liaison Department was responsible for collecting foreign intelligence through networks of official and unofficial agents abroad.[22] International Liaison Department agents used informal contacts with foreign actors to identify and investigate individuals and organizations to collect intelligence and expand China's influence abroad.[23] It appears the new CMC Political Work Department may take over this mission.

CCP United Front Work Department

The United Front Work Department under the CCP Central Committee is responsible for, among other things, building and managing relationships with actors overseas to expand China's soft power and further the CCP's political agenda.[24] The department reported-

*It appears that PLA military services (the PLA Army, Air Force, Navy, and Rocket Force), in addition to the theater commands, will have integrated technical reconnaissance units and electronic warfare and electronic countermeasure units. However, the relationship between these units and the new CMC departments and Strategic Support Force is unclear. Junichi Takeda, "President Xi's Strong Army Strategy," *Gunji Kenkyu* (Japan), May 2016, 50–65; Chinese military expert, interview with Commissioner.

ly participates in building foreign intelligence collection networks, particularly in Taiwan.[25]

China's Intelligence Collection Capabilities

Assessing China's intelligence collection capabilities is difficult. Open source analysts often must rely on media reports, which are not necessarily authoritative and do not necessarily provide a full picture of China's intelligence activities. Case studies offer some insight, but public reports might not reflect the most sophisticated Chinese espionage operations.

Human Intelligence Capabilities

Because the affiliation of Chinese intelligence agents is unknown in many cases, it is often difficult to attribute reported infiltrations to either the MSS or the former 2PLA, the two primary foreign HUMINT collectors in China's intelligence community.[26]

- *2PLA:* 2PLA has demonstrated it can use HUMINT operations to infiltrate and extract intelligence from prominent U.S. national security organizations. Notably, between 2004 and 2008, an agent reportedly affiliated with 2PLA successfully recruited two U.S. Department of Defense (DOD) employees, James Fondren and Gregg Bergersen. Both men passed classified U.S. national defense information to the agent (see "Targets of Chinese Espionage," later in this section).[27] Open sources have not indicated how the reorganization of the CMC departments will affect the subordination and control of the PLA's HUMINT organizations.
- *MSS:* In the past ten years, reported cases of Chinese espionage against the United States have not suggested MSS HUMINT operations have been effective.[28] In the most recent high-profile HUMINT case reportedly handled by the MSS, the ministry's U.S. informant received tens of thousands of dollars from his handlers to apply for employment at U.S. national security organizations, but was apprehended by U.S. authorities before infiltrating these organizations (see "China's Approach to HUMINT," later in this section).[29] However, the MSS has been notably active and successful conducting HUMINT operations against Taiwan.[30]

China's HUMINT agencies could become more effective as China's intelligence community pursues more aggressive operations, and as China's access to detailed sources of personal information on U.S. actors—such as the information China reportedly obtained through the U.S. Office of Personnel Management (OPM) hack—gives Chinese HUMINT collectors a wealth of information to target and recruit U.S. actors.[31]

Technical Intelligence Collection Capabilities

The PLA operates an extensive and increasingly sophisticated array of ground-, sea-, air-, and space-based assets for the collection of technical intelligence.*[32] Many recent developments in China's military modernization—such as the rapid development and deployment

*"Technical intelligence" here refers to signals, imagery, electronic, and measurements and signatures intelligence.

of advanced intelligence, surveillance, and reconnaissance (ISR) ships, aircraft, and satellites—will increase China's ability to collect intelligence on U.S. military forces and the military forces of U.S. allies and partners.* Moreover, the PLA's drive to increase information sharing between military units will facilitate the integration of technical intelligence to create a more accurate, real-time picture of battlefield conditions.[33] These developments would strengthen China's hand in a military confrontation, or in the lead-up to a military confrontation, with the United States.[34]

Cyber Espionage

China has a large, professionalized cyber espionage community. Chinese intelligence services have demonstrated broad capabilities to infiltrate a range of U.S. national security (as well as commercial) actors with cyber operations (see "Targets of Chinese Espionage," later in this section). Units within the former 3PLA, in particular, have been responsible for a large number of cyber operations against U.S. actors.[35] According to Director of National Intelligence James Clapper, China—along with Russia, Iran, and North Korea—poses the most significant cybersecurity threat to the United States.[36] Moreover, according to DOD,

> *China is using its cyber capabilities to support intelligence collection against the U.S. diplomatic, economic, and defense industrial base sectors that support U.S. national defense programs. The information targeted could potentially be used to benefit China's defense industry, high-technology industries, and provide the CCP insights into U.S. leadership perspectives on key China issues. Additionally, targeted information could inform Chinese military planners' work to build a picture of U.S. defense networks, logistics, and related military capabilities that could be exploited during a crisis.*[37]

In addition to the cyber espionage elements of the MSS and PLA, many unofficial Chinese actors target the United States with cyber espionage operations. These actors include government contractors, independent "patriotic hackers," and criminal actors.[38] Distinguishing between the operations of official and other Chinese cyber actors is often difficult, as is determining how these groups interact with each other. Some observers suggest China is shifting cyber espionage missions away from unofficial actors to centralize and professionalize these operations within its intelligence services.[39]

China's Intelligence Process

Understanding how Chinese intelligence services receive tasks, fuse intelligence, and disseminate intelligence products to decision makers is crucial to identifying what information reaches Chinese decision makers and how effectively that information is delivered. Analyzing this aspect of Chinese intelligence is difficult using open sources, but public reports and expert commentaries offer some insight.

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*For more information on China's military modernization affecting its ISR capabilities, see U.S.-China Economic and Security Review Commission, *2015 Annual Report to Congress*, November 2015, 240–246; U.S.-China Economic and Security Review Commission, *2014 Annual Report to Congress*, November 2014, 299–314.

- *Tasking:* China's intelligence services are responsible for serving the interests of the Chinese state and the CCP.*[40] The extraction of U.S. national defense information would advance these priorities by aiding China's military modernization and offering insight into U.S. national security decision making. The MSS and PLA are subordinate to—and most likely receive tasks from—the CCP Politburo Standing Committee and the CMC, respectively, and tasking from these organizations may be coordinated by a variety of organizations across the CCP, the Chinese government, and the PLA.[41]
- *Processing and communication to decision makers:* China may lack a well-organized system for processing and communicating intelligence to decision makers.[42] However, Chinese intelligence services probably share intelligence to support each other's operations. In testimony before the Commission, Mark Stokes, executive director of the Project 2049 Institute, wrote that "the PLA's [signals intelligence] community presumably provides direct support to senior policymakers and [the] HUMINT community, including the MSS, CMC Joint Staff Department Intelligence Bureau, and the CMC Political Work Department Liaison Bureau."[43] Moreover, the PLA's increasing jointness most likely will facilitate the processing and communication of diverse sources of intelligence to military decision makers.[44]

China's Intelligence Collection Operations against U.S. National Security Entities

Chinese intelligence services conduct extensive intelligence collection operations against U.S. national security entities, including private U.S. defense companies. This section examines how China conducts HUMINT operations, in particular, and highlights the threat of Chinese espionage to U.S. national security by providing examples of Chinese infiltrations and alleged infiltrations of a wide range of U.S. national security entities.

China's Approach to HUMINT

China's approach to HUMINT is broadly similar to U.S. intelligence agencies' approach to HUMINT.[45] Chinese intelligence services conduct overt, covert, and clandestine intelligence collection operations† against U.S. targets through a network of agents within and outside of China working as—among other things—diplomats, defense attachés, and academics.[46] They employ a variety of means to recruit and handle intelligence collectors, such as blackmail, financial incen-

*Thomas Woodrow, former senior intelligence analyst for the Pacific Command Joint Intelligence Operations Center China Division, notes that Chinese leaders describe "national strategic priorities as 'core interests' [and that] … China's core interests include 'the political stability of China' and the 'sovereignty and security, territorial integrity, and national unity of China.' These core interests can also be viewed as red lines indicating a Chinese threshold for the potential use of military force." Thomas Woodrow, "The PLA and Cross-Border Contingencies in North Korea and Burma," in Andrew Scobell et al., *The People's Liberation Army and Contingency Planning in China*, National Defense University Press, 2015, 206.

†Overt operations are openly acknowledged by or are readily attributable to their sponsor. Covert operations are planned and executed to conceal the identity of or permit plausible denial by their sponsor. Clandestine operations are sponsored or conducted with the intent to assure the secrecy and concealment of the operation. U.S. Department of Defense, *Department of Defense Dictionary of Military and Associated Terms*, November 8, 2010, 33, 55, 180; William Safire, "Spookspeak," *New York Times Magazine*, February 13, 2005.

tives, and sexual entrapment.[47] They recruit and employ agents to collect a wide range of information, including U.S. national security secrets. Chinese intelligence services seek to recruit agents from a variety of backgrounds. According to the authors of *Chinese Industrial Espionage: Technology Acquisition and Military Modernization*, William C. Hannas, James Mulvenon, and Anna B. Puglisi,

> *While Chinese intelligence does have a historically strong track record of attempting to recruit ethnic Chinese, primarily because of cultural and language affinity, more recent cases suggest that they have broadened their tradecraft to recruit non-ethnic assets as well.*[48]

Moreover, China has demonstrated interest in collecting intelligence through U.S. sources with indirect access to U.S. national security information.[49] According to Mr. Mattis,

> *In one case that I am aware, Chinese intelligence pitched someone with a think tank affiliation in D.C., and his value was in, at least as it was described to him, being able to write reports about U.S.-China relations or U.S. policy toward [China] because of a broad range of contacts to whom he could reach out and speak.*[50]

Notably, in at least one confirmed case, Chinese intelligence recruited a recent U.S. college graduate, Glenn Duffie Shriver, while he was living in China shortly after studying abroad in China in 2002–2003.[51] In October 2010, Mr. Shriver pleaded guilty to conspiring to provide U.S. national defense information to Chinese intelligence officers.[52] He received more than $70,000 from his Chinese handlers to apply to the U.S. Foreign Service and the Central Intelligence Agency National Clandestine Service with the intention of communicating classified U.S. national defense information to them after gaining employment.[53]

Although Chinese intelligence services approach foreign HUMINT collection with a similar framework to their U.S. counterparts,[54] their tactics differ on several points. In testimony before the Commission, Mr. Mattis said, "The distinctions between the U.S. and Chinese approaches to HUMINT probably are questions of specific techniques and comfort operating overseas."[55] For example, Chinese intelligence agents have not been observed conducting dead drops,* a common method in Western intelligence collection for the transmission of items between agents and their case officers.[56] Moreover, Chinese intelligence services historically appeared to recruit nearly all their agents within China, rather than recruiting agents in target or other foreign countries, although in a significant evolution, Chinese intelligence services in recent years have appeared increasingly willing to recruit agents abroad.[57]

Targets of Chinese Espionage

Chinese intelligence services target a broad range of U.S. national security actors, including military forces, defense industrial compa-

*A "dead drop" is a covert procedure in which an agent leaves a message or material in a safe location for retrieval by another agent or controller at a later time. Bruce W. Watson, Susan M. Watson, and Gerald W. Hopple, *United States Intelligence: An Encyclopedia*, Garland Publishing, Inc., 1990, 148.

nies, national security decision makers, and critical infrastructure entities. These operations have far-reaching implications for U.S. national security.[58] Moreover, the threat to U.S. national security extends overseas. China's infiltration of the systems of U.S. allies and partners could have serious implications for U.S. alliance stability and the security of U.S. national defense information.

Although this section focuses on Chinese intelligence collection against U.S. national security entities, Chinese commercial espionage also harms U.S. national security. As National Counterintelligence Executive Bill Evanina said in July 2015, "Economic security is national security."[59] Intrusions by Chinese actors into U.S. companies and other commercial institutions harm both the individual companies and the overall U.S. economy, to the benefit of China.* China recognizes the link between economic and national security, and its commercial and national security espionage efforts function in tandem to exploit it.[60]

The following are selected examples of China's infiltration or alleged infiltration of entities with a role in U.S. national security. In general, China's attempts to infiltrate these targets are almost certainly increasing.[61]

U.S. Military Forces

China's intelligence collection operations targeting U.S. military forces could give China insight into U.S. operational plans. This could allow China to more fully anticipate and more efficiently and effectively counter U.S. military operations.

- According to the Senate Committee on Armed Services, "Hackers associated with the Chinese government successfully penetrated the computer systems of U.S. Transportation Command contractors at least 20 times in a single year [from June 2012 to May 2013], intrusions that show vulnerabilities in the military's system to deploy troops and equipment in a crisis."[62]
- In March 2014, Benjamin Pierce Bishop, a former defense contractor at U.S. Pacific Command and retired lieutenant colonel in the U.S. Army, pleaded guilty to communicating classified national defense information, including information on joint training between the U.S. and South Korean militaries, to an unauthorized person—a Chinese woman with whom he was involved in a romantic relationship.[63]
- In September 2009, James Fondren, former deputy director of Pacific Command's liaison office in Washington, DC, was found guilty of engaging in unlawful communication of classified information.[64] According to court documents, he had written "opinion papers" containing classified DOD information concerning the PLA and sold them to a Chinese intelligence agent.[65]
- In March 2008, Gregg Bergersen, former analyst at the Defense Security Cooperation Agency (an agency within DOD), pleaded guilty to conspiring to disclose national defense information to persons not entitled to receive it.[66] Mr. Bergersen had passed

*For additional discussion of China's commercial cyber espionage, see U.S.-China Economic and Security Review Commission, *2015 Annual Report to Congress*, November 2015, 192–228.

information to a Chinese intelligence agent and received money and gifts from the agent.[67] Mr. Bergersen leaked information about anticipated U.S. arms sales to Taiwan, among other subjects.[68]

U.S. Defense Industrial Entities

China's intelligence collection operations targeting U.S. defense industrial entities and its acquisition of sensitive defense technology could undermine U.S. military superiority by accelerating China's military modernization and giving China insight into the capabilities and operation of U.S. weapons and weapons systems.

- In June 2016, Wenxia "Wency" Man, a Chinese-born naturalized U.S. citizen, was convicted of conspiring with an agent in China to illegally export to China the MQ–9 Reaper/Predator B unmanned aerial vehicle, as well as engines used in the F–35, F–22, and F–16 jet fighters and technical data associated with these platforms.[69]
- In June 2016, Amin "Amy" Yu, a Chinese national and permanent resident of the United States, pleaded guilty to illegally acting as an agent of the Chinese government.[70] Ms. Yu illegally exported commercial technology used in marine submersible vehicles* to conspirators at China's Harbin Engineering University, a research institute that supports PLA Navy military modernization.[71]
- In March 2016, Su Bin, a Chinese national, pleaded guilty to conspiring from 2008 to 2014 to steal U.S. military technical data, including data on the Boeing C–17 Globemaster military transport aircraft and jet fighter aircraft, and export this information to China.[72] Some of Mr. Su's co-conspirators were members of the PLA Air Force.[73]

National Security Decision Makers and Government Organizations

China's intelligence collection operations targeting U.S. national security decision makers and government organizations could give China insight into highly sensitive U.S. national security decision making processes.

- In August 2016, Kun Shan "Joey" Chun, a Chinese-born naturalized U.S. citizen, pleaded guilty to illegally acting as an agent of the Chinese government.[74] Mr. Chun was a Federal Bureau of Investigation (FBI) electronics technician. He passed sensitive information to China on, among other things, surveillance technologies used by the FBI.[75] Mr. Chun's Chinese contacts provided him with financial payments and partially paid for a trip to Italy and France, during which he met with a Chinese intelligence officer.[76]
- According to an NBC report from August 2015, since 2010 China has targeted and infiltrated the personal e-mail accounts of

*According to the U.S. Department of Justice, "marine submersible vehicles" refers to "unmanned underwater vehicles, remotely operated vehicles, and autonomous underwater vehicles." U.S. Department of Justice, *Florida Woman Charged in 18-Count Indictment for Conspiracy to Illegally Export Systems, Components, and Documents to China*, April 21, 2016.

many Obama Administration officials.[77] As of 2014 the infiltrations were ongoing, according to the report.[78]

- In July 2015, OPM announced that hackers had extracted personnel records of roughly 22 million U.S. citizens.[79] The hackers were reportedly affiliated with the MSS.[80] Some of the stolen files contained detailed personal information of federal workers and contractors who have applied for security clearances. Among the information extracted were the fingerprints of 5.6 million people, some of which could be used to identify undercover U.S. government agents or to create duplicates of biometric data to obtain access to classified areas.[81]
- In 2010, China reportedly attempted to infiltrate the e-mail accounts of top U.S. national security officials, including then Joint Chiefs of Staff chairman Admiral Mike Mullen and then chief of naval operations Admiral Gary Roughead.[82]
- In May 2016, Mr. Clapper said U.S. intelligence has seen evidence that foreign actors have targeted the 2016 presidential campaigns with cyber operations.[83] These actors most likely include Chinese intelligence services, as well as actors in Russia and other countries.[84] During the 2008 U.S. presidential election, China reportedly infiltrated information systems of the campaigns of then senator Barack Obama and Senator John McCain.[85]

U.S. Critical Infrastructure

U.S. critical infrastructure* entities are a major target of Chinese cyber operations, and China is capable of significantly disrupting or damaging these entities.[86] In 2013, the U.S. Department of Homeland Security reported that attacks—including cyber intrusions—on critical infrastructure could disrupt "the ability of government or industry to … carry out national security-related missions."[87] At a November 2014 hearing of the House of Representatives Permanent Select Committee on Intelligence, Admiral Michael Rogers, commander of U.S. Cyber Command and director of the National Security Agency, indicated he believed "advanced nation state adversaries" like China or Russia have the capability to "shut down vital infrastructure like oil and gas pipelines, power transmission grids, and water distribution and filtration systems."[88] China reportedly has already infiltrated many U.S. critical infrastructure entities,†

*According to the U.S. Department of Homeland Security, critical infrastructure entities are entities "considered so vital to the United States that their incapacitation or destruction would have a debilitating effect on security, national economic security, national public health or safety, or any combination thereof." A Presidential Policy Directive from February 2013 defines 16 critical infrastructure sectors: chemical; commercial facilities; communications; critical manufacturing; dams; defense industrial base; emergency services; energy; financial services; food and agriculture; government facilities; healthcare and public health; information technology; nuclear reactors, materials, and waste; transportation systems; and water and wastewater systems. U.S. Department of Homeland Security, *Critical Infrastructure Sectors*, October 27, 2015; White House Office of the Press Secretary, *Presidential Policy Directive: Critical Infrastructure Security and Resilience*, February 12, 2013.

†In April 2016, Szuhsiung "Allen" Ho, a Chinese-born naturalized U.S. citizen, and China General Nuclear Power Company, a Chinese state-owned enterprise, were indicted for conspiracy to unlawfully engage and participate in the production and development of special nuclear material outside the United States. Maria L. La Ganga, "Nuclear Espionage Charge for China Firm with One-Third Stake in UK's Hinkley Point," *Guardian*, August 10, 2016; U.S. Department of Justice, *U.S. Nuclear Engineer, China General Nuclear Power Company, and Energy Technology International Indicted in Nuclear Power Conspiracy against the United States*, April 14, 2016.

such as power transmission grids, and installed software that could be used to disable or destroy infrastructure components in a crisis or military conflict.[89]

U.S. Allies and Partners

At a minimum, China has targeted several U.S. ally and partner countries with intelligence collection operations. To the extent that the United States has shared military technology, weapons and weapons systems, and operational plans with these countries, China's infiltration of their defense establishments could compromise U.S. national security. These infiltrations also threaten U.S. alliance stability.

Among U.S. allies and partners, Taiwan is a prominent target of Chinese espionage. David Major, chief executive officer and president of the CI Centre, testified to the Commission that 56 agents of China were arrested in Taiwan from 2002 to 2016 for involvement in Chinese espionage plots to extract sensitive information—including U.S. military technology shared with Taiwan—from Taiwan defense and intelligence organizations.[90] The implications of this challenge for the U.S.-Taiwan relationship are particularly significant.[91] Taiwan relies on defense cooperation with the United States—including the transfer of U.S. military equipment—to help maintain its self-defense capabilities in the face of China's rapidly growing military might.[92] Moreover, Taiwan's strategic position in the Western Pacific makes its defensibility an important aspect of the U.S. alliance system and strategy for the region.[93]

In addition, cases of alleged Chinese infiltrations, including the following, have affected other U.S. partners:

- In July 2016, the Finnish cybersecurity firm F-Secure published a report suggesting China was responsible for cyber intrusions into the information systems of the Philippines Department of Justice, organizers of the Asia Pacific Economic Cooperation summit, and an unidentified international law firm representing the Philippines in the lead-up to the July 2016 decision by the Permanent Court of Arbitration at The Hague regarding the China-Philippines territorial dispute in the South China Sea.[94]
- In February 2016, a senior Norwegian intelligence official said actors in China had stolen confidential information from Norwegian companies that is now being used in Chinese military technology.[95] Norway is a member of the North Atlantic Treaty Organization.
- In December 2015, the Australian Broadcasting Corporation published a report suggesting China was responsible for a massive cyber intrusion into the systems of the Australian Bureau of Meteorology, which provides data to the Australian Department of Defence.[96] Australia is a U.S. treaty ally.
- China-based actors have conducted extensive cyber operations targeting Japan.[97] In February 2015, the Japan National Institute of Information and Communications Technology reported that China was responsible for 40 percent of approximately 26 billion attempts to compromise Japanese information systems in 2014.[98] Japan is a U.S. treaty ally.

- Chinese intelligence has recruited agents in Thailand and, reportedly, the Philippines, both of which are U.S. treaty allies.[99] Moreover, China allegedly handled a U.S. informant while he was traveling in Italy and France.[100] China's apparent shift toward more overseas recruitment and handling operations[101] could create a greater espionage threat environment in these and other U.S. partner countries.

U.S. Responses to Chinese Espionage

Recent U.S. responses to Chinese espionage have included an April 2015 executive order allowing for sanctions in response to foreign "malicious cyber-enabled activities,"* a September 2015 memorandum of understanding between the United States and China agreeing that neither government would "conduct or knowingly support cyber-enabled theft of intellectual property … with the intent of providing competitive advantages to companies or commercial sectors,"[102] and increased U.S. Department of Justice (DOJ) investigations and prosecutions of espionage cases involving Chinese actors. (For more information on the status of the September 2015 memorandum of understanding, see Chapter 1, Section 1, "Year in Review: Economics and Trade.") This section considers DOJ's responses in detail, as well as the U.S. Intelligence Community's response and enhanced U.S. government cybersecurity measures.†

DOJ Responses

U.S. prosecutions of alleged Chinese commercial espionage have risen sharply over the past several years. From 2014 to 2015 alone, Chinese commercial espionage cases accounted for a large portion of a 53 percent rise in commercial espionage cases investigated by the FBI.‡[103] Because DOJ sometimes has approached cases of defense-related espionage as commercial espionage cases—that is, cases prosecuted under commercial espionage laws, rather than defense espionage laws—these statistics probably capture a rise in Chinese espionage operations targeting U.S. national security actors.[104] Moreover, as noted earlier, non-defense-related Chinese commercial espionage itself threatens U.S. national security.

In February 2013, as a part of the Obama Administration's rollout of a national strategy to protect U.S. trade secrets, then attorney general Eric Holder said DOJ "has made the investigation and prosecution of trade secret theft a top priority," and that DOJ's National Security Division Counterespionage Section "has taken a leading role in economic espionage cases—and others affecting national security and the export of military and strategic commodities or technology."[105] In the same speech, Mr. Holder highlighted the threat from China by listing successful prosecutions of individuals

*The Obama Administration has not yet applied the sanctions against China or any other country. For additional information about the sanctions, see U.S.-China Economic and Security Review Commission, *2015 Annual Report to Congress,* November 2015, 204–205.

†For more information on the April 2015 executive order, see U.S.-China Economic and Security Review Commission, *2015 Annual Report to Congress*, November 2015, 204–205.

‡In May 2014, a federal grand jury indicted five PLA officers for computer hacking and economic espionage conducted against U.S. companies, among other offenses. Since the indictment, the U.S. government has taken no further actions in the case. U.S. Department of Justice*, U.S. Charges Five Chinese Military Hackers for Cyber Espionage against U.S. Corporations and a Labor Organization for Commercial Advantage*, May 19, 2014.

for transferring trade secrets—including, in one case, defense information—to China.[106]

U.S. Intelligence Community Responses

The U.S. counterintelligence response to Chinese espionage has suffered from a lack of coordination within the U.S. Intelligence Community. According to the Office of the Director of National Intelligence (ODNI) *National Counterintelligence Strategy of the United States of America 2016*, "The current and emerging [counterintelligence] challenges facing the United States require an integrated, whole-of-government response."[107] The document outlines priorities for achieving this objective, such as "strengthen[ing] secure collaboration, responsible information sharing and safeguarding, and effective partnerships" among counterintelligence organizations.[108] However, ODNI's Office of the National Counterintelligence Executive, which is statutorily responsible for developing the U.S. government National Counterintelligence Strategy, does not appear to have practical authority to make structural changes within the U.S. Intelligence Community toward this goal.[109] Michelle Van Cleave, former national counterintelligence executive, testified to the Commission that "instead of looking at the strategic implications of China's intelligence operations, the U.S. government for the most part has adopted a case-by-case approach to dealing with the threat they represent."[110] This approach has—at least publicly—largely manifested as a series of isolated espionage prosecutions, rather than a coordinated counterintelligence effort across the Federal Government.

Enhanced U.S. Government Cybersecurity Measures

The Obama Administration has taken some steps to enhance cybersecurity measures at federal agencies and government contractors, including the following:

- In December 2015, DOD issued an interim amendment to the Defense Federal Acquisition Regulation Supplement that strengthened cybersecurity requirements and cyber incident reporting requirements for defense contractors.[111]
- In February 2016, the Obama Administration announced the creation of the Commission on Enhancing National Cybersecurity.[112] The commission's mandate includes making recommendations for measures to increase "the quality, quantity, and level of expertise of the cybersecurity workforce in the Federal Government and private sector."[113] In August 2016, the commission released a request for information on critical infrastructure cybersecurity and cybersecurity research and development, among other topics.[114]
- In May 2016 the Federal Acquisition Regulation was amended to impose higher requirements on U.S. government contractors to safeguard their information systems from cyber intrusions and to require them to "identify, report, and correct information and information system flaws in a timely manner."[115]
- The Obama Administration's fiscal year (FY) 2017 budget proposal allotted more than $19 billion for cybersecurity—an increase of more than 35 percent over FY 2016.[116]

- In July 2016, the White House issued a Presidential Policy Directive on "Cyber Incident Coordination."[117] The directive created a coordination mechanism and clarified the division of labor between U.S. government agencies responsible for responding to "significant cyber incidents" affecting U.S. government and private entities.[118]

The U.S. government's efforts to increase cybersecurity at national security organizations have not always been communicated clearly. In April 2016, an e-mail from U.S. Air Force Cyber Command circulated within the Air Force indicated that products of Lenovo Group Ltd.—a technology company affiliated with the Chinese government—would be removed from DOD's "Approved Products List," and that all Lenovo products currently in use would be removed from DOD systems.[119] However, within several days an Air Force spokeswoman said the message should not have been sent and indicated that DOD had not banned Lenovo products.[120] It is unclear how this situation was resolved.

Increased cybersecurity measures could mitigate, but will not eliminate, the threat of Chinese cyber espionage. Cyber intruders generally develop new approaches more quickly than their targets can develop defenses.[121] Moreover, the human element of cyber espionage is difficult, and sometimes impossible, to defend against. Poor personal cybersecurity practices and procedures among insiders, as well as intentional leaks by insiders, can aid infiltrators.[122]

Implications for U.S. National Security

China's illicit extraction of sensitive U.S. national security information has far-reaching consequences for U.S. interests.

In recent years, Chinese agents have extracted data on some of the most advanced weapons and weapons systems in the U.S. arsenal, such as jet fighters and unmanned submersible vehicles. The loss of these and other sensitive defense technologies undermines U.S. military superiority by accelerating China's military modernization and giving China insight into the capabilities and operation of U.S. weapons and weapons systems.

The United States shares weapons, weapons systems, and operational plans with its allies and partners, many of whom China has targeted with espionage operations. China's infiltrations of these countries' defense establishments have significant implications for U.S. alliance stability. If the United States perceives significant security risks in sharing information and equipment with its partners, it could hesitate to provide such support in the future.[123] Even when China is not successful in extracting sensitive information, public reports of failed espionage attempts—such as the many recent reports of Chinese agents apprehended in Taiwan[124]—could undermine U.S. confidence in its partners and contribute to a deterioration in bilateral defense relations.

China's infiltrations of the information systems of U.S. government organizations with a role in national security, along with infiltrations of the e-mail accounts of prominent U.S. government officials, could give China insight into U.S. government national security decision making and provide China with opportunities to manipulate it. These breaches could give China insight into inter-

nal U.S. discussions of issues relevant to U.S.-China contingencies, potentially allowing China to anticipate and counter U.S. actions, including military operations. Moreover, these breaches could give Chinese intelligence information useful for targeting and recruiting agents for espionage and influence operations.

The Chinese intelligence threat to U.S. national security will grow as China reforms and centralizes its intelligence apparatus and gains experience conducting intelligence collection operations. Its HUMINT operations, in particular, already appear to be growing more aggressive and extensive.[125] China's intelligence processing and communication to decision makers is likely to become more effective and efficient as the PLA moves toward joint, integrated intelligence operations. The potential resubordination and centralization of elements of the former PLA General Staff Department intelligence departments to the new Strategic Support Force also could create a more streamlined and well-coordinated intelligence apparatus.

Conclusions

- Chinese intelligence has repeatedly infiltrated U.S. national security organizations and extracted information with serious consequences for U.S. national security, including information on the plans and operations of U.S. military forces and the designs of U.S. weapons and weapons systems. This information could erode U.S. military superiority by aiding China's military modernization and giving China insight into the operation of U.S. platforms and the operational approaches of U.S. forces to potential contingencies in the region.
- China's growing technical intelligence collection capabilities could strengthen China's hand in a contingency. Its extensive network of intelligence, surveillance, and reconnaissance (ISR) assets and continued development and deployment of increasingly advanced ISR platforms will increase the ability of the People's Liberation Army (PLA) to monitor U.S. forces. Moreover, the enhanced jointness of PLA intelligence at the theater level will facilitate the integration of data collected by these platforms to form a more comprehensive, real-time battlefield picture.
- Chinese intelligence reportedly has repeatedly targeted and succeeded in infiltrating the personal e-mail accounts of leading U.S. government officials. These infiltrations could give China insight into highly sensitive U.S. national security decision-making processes.
- China's infiltration of the national security establishments of U.S. allies and partners could allow China to indirectly access sensitive U.S. national security information. Moreover, these breaches could undermine the strength and stability of U.S. alliances by causing the United States to hesitate to share sensitive information with its partners.

RECOMMENDATIONS

Chinese Intelligence Services and Espionage Threats to the United States

The Commission recommends:

- Congress direct the U.S. Department of State to develop educational materials to alert U.S. citizens living and traveling abroad about recruitment efforts by Chinese intelligence agents, and to make these materials available to U.S. universities and other institutions sending U.S. students to China. Congress should also direct the U.S. Department of Defense to develop and implement a program to prepare U.S. students studying in China through Department of Defense National Security Education Programs to recognize and protect themselves against recruitment efforts by Chinese intelligence agents.
- Congress direct the Federal Bureau of Investigation to provide a classified report to Congress on what risks and concerns have been identified as associated with information systems acquired by the U.S. government, and how those risks are being mitigated. This report should identify information systems or components that were produced, manufactured, or assembled by Chinese-owned or –controlled entities.

ENDNOTES FOR SECTION 3

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CHINA:
EMP THREAT

The People's Republic of China Military Doctrine, Plans, and Capabilities for Electromagnetic Pulse (EMP) Attack

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EMP Task Force on National and Homeland Security
June 10, 2020

CHINA: EMP THREAT

Chinese Military Doctrine: EMP Attack Decisive

China has long known about nuclear high-altitude electromagnetic pulse (HEMP) and invested in protecting military forces and critical infrastructures from HEMP and other nuclear weapon effects during the Cold War, and continuing today. China has HEMP simulators and defensive and offensive programs that are almost certainly more robust than any in the United States. China's military doctrine regards nuclear HEMP attack as an extension of information or cyber warfare, and deserving highest priority as the most likely kind of future warfare.[1]

Chinese military writings are replete with references to making HEMP attacks against the United States as a means of prevailing in war. The foremost People's Liberation Army textbook on information warfare, Shen Weiguang's *World War, the Third World War—Total Information Warfare*, explicitly calls upon China to be prepared to exploit HEMP offensively—and to defend against it:[2]

"With their massive destructiveness, long-range nuclear weapons have combined with highly sophisticated information technology and information warfare under nuclear deterrence....Information war and traditional war have one thing in common, namely that the country which possesses the critical weapons such as atomic bombs will have 'first strike' and 'second-strike retaliation' capabilities....As soon as its computer networks come under attack and are destroyed, the country will slip into a state of paralysis and the lives of its people will ground to a halt. Therefore, China should focus on measures to counter computer viruses, nuclear electromagnetic pulse...and quickly achieve breakthroughs in those technologies in order to equip China without delay with equivalent deterrence that will enable it to stand up to the military powers in the information age and neutralize and check the deterrence of Western powers, including the United States."

China's military doctrine closely associates cyber-attacks with nuclear HEMP attack, as part of a combined operation in what they call Total Information Warfare. Cyber bugs and hacking are the tip of the spear, the functional equivalent of scouts and sappers who do reconnaissance and secretly prepare the beaches for the arrival of D-Day, or like the motorcycle troops that preceded the heavy armored divisions in Germany's Blitzkrieg.

Therefore, China's cyber-attacks (for example, most notoriously in June 2015 on computers in virtually every federal agency, stealing sensitive information on millions of federal employees,

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[1]Some of China's scientists have even published openly in the West their technical assessments of "high-altitude electromagnetic pulse waveform amplitudes at satellite orbits" as in Cui Meng, "Numerical Simulation of the EMP Environment" IEEE Transaction on Electromagnetic Compatibility (June 2013). Dr. Peter Vincent Pry, "Foreign Views of Electromagnetic Pulse (EMP) Attack," Testimony on behalf of EMP Commission before the Subcommittee on Terrorism, Technology and Homeland Security, Senate Committee on the Judiciary (Washington, D.C.: March 9, 2005). EMP Commission, *Foreign Views of Electromagnetic Pulse Attack* (Washington, DC: July 2017).

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reportedly on every employee of the Federal government) should be regarded as possible practice or preparation for Total Information Warfare—including nuclear HEMP attack.

An article "Overview of Electromagnetic Pulse Weapons and Protection Techniques Against Them" from the People's Republic of China's Air Force Engineering University describes nuclear EMP weapons as the most powerful and effective variant of electronic warfare weapons for waging Information Warfare. Nuclear and non-nuclear EMP weapons in the context of Information Warfare are the crucial instruments for implementing this Revolution in Military Affairs:

"In future high-tech warfare under informatized conditions, information warfare will span multiple dimensions, including ground, sea, air, and the EM spectrum. Information superiority has already become central and crucial to achieving victory in warfare…If the communications equipment used for the transmission of battlefield information were attacked and damaged by an opponent's EMP weapons, then the one attacked would face the danger of disruption in battlefield information transmission. EMP severely restricts the tactical performance and battlefield survivability of informatized equipment.[3]

Moreover, the article clearly makes a distinction between nuclear weapons (designed for blast and shock) versus nuclear EMP weapons (designed to maximize HEMP effects), describing the latter as "a new type of weapon" like non-nuclear EMP weapons, both designed for waging Information Warfare:

"As opposed to conventional and nuclear weapons, EMP weapons are a new type of weapon capable of causing mass destruction by instantly releasing high-intensity EMP…They can interfere, damage, and overheat electronics, resulting in logic circuit dysfunctions, control malfunctions, or total failure. The unique destructive effect that EMP have on electronic equipment was unintentionally discovered by the United States in the 1960s during a nuclear test. In July 1962, the United States conducted a high-altitude nuclear explosion in the Pacific Ocean. This…unexpectedly overloaded the Honolulu power grid in Hawaii, 1,400 km away, even overheating lightning protection devices on powerlines. On a battlefield, this new-type weapon will cause devastating damage to electronic systems, including computers, communications and control systems, and radars, resulting in immeasurable losses.[4]

Furthermore, according to the article: "There are 3 types of military EMP based on pulse sources: the first is the high-altitude EMP (HEMP) produced by the detonation of a low yield nuclear bomb in the atmosphere at high-altitude; the second is…produced by high explosives and related devices; the third is the HPM [High-Powered Microwave]…produced by HPM devices such as magnetrons and vircators." Nuclear EMP weapons are, or include, Enhanced-EMP or so-called Super-EMP weapons designed to produce gamma rays and high-frequency E1 EMP: "HEMP weapons are a type of weak nuclear explosive EMP bomb that produces EMP through the detonation of low-yield nuclear bombs at high-altitudes (70 to 100 km above ground)." The E1 EMP field "produced by nuclear EMP is about 10 to 100 kV/m and can penetrate and melt any electronic components."[5]

[3] Zhao Meng, Da Xinyu, and Zhang Yapu, "Overview of Electromagnetic Pulse Weapons and Protection Techniques Against Them" Winged Missiles (PRC Air Force Engineering University: May 1, 2014).
[4] Ibid.
[5] Ibid.

China Has Super-EMP Weapons

Chinese open source military writings describe the possession of Super-EMP weapons, as seen above for example in the article from the PRC Air Force Engineering University. How to execute a nuclear HEMP attack on Taiwan using a Super-EMP weapon was described in an interview with one of the founders of the PRC's nuclear weapons program and Deputy Director of the Institute of Theoretical Physics, General Lin Chin-ching.[6]

Taiwan military intelligence in open sources credits China with having a Super-EMP nuclear weapon—based on design information stolen from the U.S. nuclear weapon labs. Taiwan is generally regarded as the nation most expert on China's military capabilities, doctrine, and planning, just as Israel is generally regarded as the nation most expert on the military threat posed by its neighbors.

Taiwan's military analysts agree with the People's Republic of China that, "The EMP attack scenario presents the only attack option that meets the demand for making the first, paralyzing strike of a war, paving the way for the other troops to attack Taiwan." According to a briefing from Taiwan's Military College of National Defense University titled "Electromagnetic Pulse Attack and Defense" the People's Republic of China:

"Used spies in the United States and engaged Russian technical consultants, resulting in the successful manufacture of a mini bomb using implosion technology…Military experts believe the Communist Armed Forces are capable of deploying a kiloton grade EMP warhead today…The EMP attack scenario presents the only attack option that meets the demand for making the first, paralyzing strike of a war, paving the way for the other troops to attack Taiwan."[7]

Another article "Special Means of Warfare in the Information Age" notes that Information Warfare includes computer viruses and EMP attack, and can be used to collapse an enemy's electric grid and other national critical infrastructures:

"The methods used to achieve destruction or manipulation of the 'byte' can be 'atomic'—such as electromagnetic pulse bombs and so on—or can be 'byte' type—such as computer viruses…The so-called strategic information warfare is the use of destruction or manipulation of the flow of information on a computer network to destroy the enemy's telephone network, fuel pipelines, electric grid, transportation control system, national funds transfer system, various bank clearance systems, and health and sanitation systems, in order to achieve a strategic goal."[8]

[6] Ibid. Seij Yajima interviews General Lin Chin-ching, Sankei Shimbum (November 5, 1999) translated in FBIS FTS19991105000047. EMP attack on Taiwan described in Qi Leyi interview with He Zuoxiu, "It Is Impossible To Steal Top Secrets of Nuclear Weapons" Chung-kuo Shih-Pao (November 26, 2000) translated in FBIS CPP20001127000030.

[7] Dr. Chien Chung, Department of Nuclear Science, National Tsing Hua University, Military Lecturer for Military College of National Defense University, briefing "Electromagnetic Pulse and Defense" (Taiwan: Undated circa 2006).

[8] Wang Xiaodong, "Speacial Means of Warfare in the Information Age" Jianchuan Zhishi (June 30, 1999).

An article by China's National Security Policy Committee "General Trend of the Worldwide Revolution in Military Affairs" sees "electromagnetic pulse bombs" among the new "disruptive technologies" that "can change the 'rules of the game'" by disrupting U.S. military "precision warfare capabilities centered on information technology" thereby sounding "the horn of a new round of revolution in military affairs."[9]

HEMP appears to be the key to victory in China's military doctrine against U.S. aircraft carriers and Taiwan. For example, from the official newspaper of the Shanghai Communist Party Central Committee:

"The weak points of a modern aircraft carrier are: 1) As a big target, the fleet is easy for a satellite to reconnoiter and locate it, and for missiles to conduct saturation attacks; 2) A high degree of electronization is like an 'Achilles' heel' for an aircraft carrier fleet, which relies heavily on electronic equipment as its central nervous system. These two characteristics determine one tactic…Electromagnetic pulse bombs (missiles) bear the characteristics that meet those requirements: 1) The strong magnetic field and electromagnetic pulse caused by an explosion can destroy all important integrated circuits and chips…thus paralyzing the radar and telecommunications system of the aircraft carrier and vessels around it as well as the ship-mounted missiles and aircraft. 2) The scope of demolition and effective action are wide, reaching dozens of kilometers. 3) The equipment is damaged without casualties. 4) An electromagnetic pulse bomb…does not have to hit the aircraft carrier but only needs to explode within dozens of kilometers around the aircraft carrier…As long as an electromagnetic pulse bomb can successfully explode, an aircraft carrier will be paralyzed. 5) If the central nervous system of an aircraft carrier is paralyzed, even a comparatively backward naval vessel or aircraft…will be able to aim at the aircraft carrier as a conventional target, thereby thoroughly changing the balance between the strong and the weak."[10]

"The possession of electromagnetic pulse bombs (missiles) will provide the conditions to completely destroy an aircraft carrier fleet, and the way to complete victory in dealing with aircraft carrier fleets," according to "Using A-Bomb To Deal With Aircraft Carrier."[11]

An article in the newspaper of China's People's Liberation Army (PLA) notes that: "The United States is more vulnerable than any other country in the world" to attacks by EMP and cyber warfare:

"Some people might think that things similar to the 'Pearl Harbor Incident' are unlikely to take place during the information age. Yet it could be regarded as the 'Pearl Harbor Incident' of the 21st century if a surprise attack is conducted against the enemy's crucial information systems of command, control, and communications by such means as electronic warfare, electromagnetic

[9] Li Bingyan, "General Trend of the Worldwide Revolution in Military Affairs" PRC National Security Policy Committee (January 2016).
[10] Ye Jian, "Armchair Strategy: Using A-Bomb To Deal With Aircraft Carrier" Jiefang Ribao (February 12, 2000). See also: Feng Changsong, "Six Aircraft Carrier 'Busters'" Zhongguo Guofang Bao (March 5, 2002) p. 4. Wang Jiasuo, "Aircraft Carriers: Suggest You Keep Out Of The Taiwan Strait!" Junshi Wenzhai (April 1, 2001) pp. 58-59.
[11] Ibid.

pulse weapons, telecommunications interference and suppression, computer viruses, and if the enemy is deprived of the information it needs as a result. Even a super military power like the United States, which possesses nuclear missiles and powerful armed forces, cannot guarantee its immunity…In their own words, a highly computerized open society like the United States is extremely vulnerable to electronic attacks from all sides. This is because the U.S. economy, from banks to telephone systems and from power plants to iron and steel works, relies entirely on computer networks…When a country grows increasingly powerful economically and technologically…it will become increasingly dependent on modern information systems…The United States is more vulnerable to attacks than any other country in the world…"[12]

Hypersonic Weapons: New EMP Threat

China is on the verge of deploying or has already deployed hypersonic weapons that could potentially be armed with nuclear or non-nuclear EMP warheads, greatly increasing the threat of surprise attack against U.S. forces in the Pacific and against the United States.

Hypersonic weapons are of two types: Hypersonic Glide Vehicles (HGVs) and Hypersonic Cruise Missiles (HCMs). HGVs are boosted by a missile to an altitude of 40-100 kilometers where they skim along the upper atmosphere unpowered, using control surfaces on the glide vehicle to maneuver unpredictably, evading missile defenses, and highly accurately when they descend to target. HCMs are launched by an aircraft and have engines to power themselves to the upper atmosphere where, like HGVs, they speed toward target evasively and accurately.

Both HGVs and HCMs are capable of extraordinarily high speeds, depending upon design ranging from at least 5 times the speed of sound or 6,200 kilometers per hour to 25,000 kph.

The combination of hypersonic speed, a flat non-ballistic trajectory that flies below radar, and maneuverability that frustrates interception and provides for highly accurate delivery, makes HGVs and HCMs an unprecedented threat to strategic stability and the balance of power.

U.S. Strategic Command's General John Hyten, chief of the nuclear Triad deterrent, in 2018 sounded alarms about developing hypersonic weapons threats from China and Russia.[13]

Former chief of U.S. Pacific Command, Admiral Harry Harris, testified to the House Armed Service Committee in February 2018 that "hypersonic weapons were one of a range of advanced technologies where China was beginning to outpace the U.S. military, challenging its dominance in the Asia-Pacific region."[14]

DOD's Undersecretary of Defense for Research and Engineering, Michael Griffin, in April 2018 testified to the Senate Armed Services Committee that "China had deployed, or is close to deploying, hypersonic systems armed with conventional warheads. These can travel thousands of miles from the U.S. coast and threaten American forward bases or carrier battle groups."[15]

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[12]Zhang Shouqi and Sun Xuegui, Jiefangjun Bao (May 14, 1996).

[13] Starr, op. cit. See also: Office of the Secretary of Defense, *Military and Security Developments Involving the People's Republic of China 2019*, Annual Report to Congress (May 2019) p. 44.

[14] David Lague, "China Leads U.S. On Potent Super-Fast Missiles" Reuters (April 25, 2019).

[15] Ibid.

Griffin warned: "We do not have defenses against these systems."[16]

Reportedly, by early 2016 China had performed six successful tests of hypersonic weapons and by 2019 deployed at least two, the DF-17 HGV with a range of 1,500 miles and the CM-401, a short-range (180 miles) anti-ship ballistic missile.[17] If armed with a nuclear or non-nuclear EMP warhead, either of these could perform a surprise EMP attack.

Hypersonic weapons are ideally suited for nuclear HEMP attack because their operating altitude (40-100 kilometers) is the optimum height-of-burst for maximizing HEMP field strength against a surface target that might be EMP-hardened, like an aircraft carrier group or an ICBM wing. Super-EMP warheads, in design resembling a low-yield tactical nuclear weapon like a neutron artillery shell, would likely be much smaller and lighter, and certainly much more effective, than any conventional high-explosives warhead for China's HGVs and HCMs.

If China arms its ICBMs and SLBMs with hypersonic warheads designed for Super-EMP attack, then Beijing could virtually overnight transform its relatively (allegedly) small nuclear deterrent into a giant killer, capable of flying below U.S. radars and outracing U.S. reaction-time to deliver a HEMP "Pearl Harbor."

HEMP Satellites?

China has the technical capability to make a surprise HEMP attack by nuclear-armed satellite orbited over the south polar region to evade U.S. BMEWS radars and National Missile Defenses, as planned by the USSR during the Cold War with its secret weapon the Fractional Orbital Bombardment System (FOBS).

China also has the technical capability to clandestinely orbit a nuclear-armed satellite or satellites to be maintained in orbit for years until needed to make a surprise HEMP attack against the U.S., India, Russia, or some other target.

China has a wide array of Space Launch Vehicles and satellite launch centers at Jiquan, Taiyuan, Xichang, and Wenchang that could be used for the above HEMP surprise attack options by satellite. China's space and military programs are integrated. For example, the China Academy of Launch Vehicle Technology (CALT) "is China's largest and most important organization for the research, development and production of space launch vehicles (SLVs), liquid-fueled surface-to-surface missiles, solid-fueled surface-to-surface and submarine-launched ballistic missiles" including ICBMs, IRBMs, and SRBMs.[18]

China has great strategic incentives for a clandestine capability to perform HEMP attack by satellite as a means of preempting or retaliating against its many nuclear-armed potential adversaries—the U.S., India, and Russia. Moreover, HEMP attack could enable China to "level

[16] Ibid.

[17] David Brennan, "China's Hypersonic Missiles: How Worried Should the U.S. Be About Futuristic Weapons" Newsweek (July 5, 2019).

[18] "China Academy of Launch Vehicle Technology" https://www.nti.org/learn/facilities/59/.

the playing field" or defeat the U.S. by being the most effective means of quickly neutralizing large numbers of LEO satellites that are crucial to U.S. military operations.

HEMP propagates downward through the atmosphere, not through the vacuum of space, so no PRC satellites would be at risk from HEMP, unless the HEMP field is over China so satellite ground stations could be damaged—a highly unlikely scenario, that China would make a HEMP attack on itself.

Satellites are at risk from an exo-atmospheric detonation for HEMP from the gamma rays which, if they reach the satellite and are close enough, can damage satellites by a phenomenon called System Generated EMP (SGEMP).[19] But China has almost certainly hardened its satellites against SGEMP and other phenomena that might be generated by the worst-case SGEMP threat they plan to employ: a Super-EMP weapon which is designed specifically to produce powerful gamma rays.

The U.S. hardens military satellites against SGEMP too, but probably not against the SGEMP produced by Super-EMP weapons, as the U.S. has no Super-EMP weapons. The U.S. does not even have simulators for Super-EMP weapons to test against this threat.

China can further protect its LEO satellites (those most at risk) from SGEMP by timing its HEMP attack so PRC satellites are over-the-horizon and will not be illuminated by gamma rays.

An exo-atmospheric nuclear detonation for HEMP can also damage LEO satellites by "pumping" the Van Allen belt with ionized particles, as happened after the 1962 STARFISH PRIME high-yield exo-atmospheric nuclear test that inadvertently damaged U.S. satellites.[20] Satellites can be hardened to survive this environment too, and presumably would be if HEMP attack is an important military option, as it is for China.

Ionization of the Van Allen belt is a much bigger threat to LEO satellites if the HEMP attack uses a high-yield weapon detonated above 100 kms HOB, but Super-EMP weapons are very low-yield and the HEMP scenarios that make most sense for China entail detonations at 30-100 kms HOB.

The U.S. should be very concerned about a scenario where China uses nuclear space weapons, perhaps ICBMs and IRBMs with specialized warheads, to quickly sweep the skies of U.S. satellites, even at the risk of losing PRC satellites, which could then be replaced with a surge of satellites launched by China to capture the "high frontier" and cripple U.S. military capabilities.

If China is orbiting nuclear-armed satellites for HEMP surprise attack, this would be one of their deepest and best protected military secrets. In addition to obvious strategic considerations, the Outer Space Treaty bans orbiting nuclear weapons in space, and China has pursued a long propaganda offensive criticizing the U.S. for "militarizing space" intended to deter the U.S. from orbiting space-based missile defenses and from improving U.S. military capabilities in space.[21]

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[19] The EMP Commission Report *Critical National Infrastructures* (2008) Chapter 10 "Space Systems" describes collateral threats to satellites from HEMP attack.

[20] Ibid.

[21] U.S. Arms Control and Disarmament Agency, *Arms Control and Disarmament Agreements* (Washington, D.C.: 1982) "Outer Space Treaty" pp. 48-56.

Interestingly, one of China's foremost EMP scientists, Cui Meng, has published an unclassified technical article in Western press—"Numerical Simulation of the EMP Environment" IEEE Transactions on Electromagnetic Compatibility (June 2013)—that examines the "high-altitude electromagnetic pulse waveform amplitudes at satellite orbits."

China EMP Defenses

It seems highly likely that China's development of offensive HEMP capabilities would inform and drive development of defensive capabilities too, especially protection of critical infrastructures necessary to support their war effort. Moreover, China's proximity to North Korea and Taiwan—both potential nuclear flashpoints for an HEMP event—would likely raise Beijing's concern about protecting its critical infrastructures in this dangerous neighborhood. The neighborhood is made more dangerous by China's own plans, described in open sources, to make HEMP attacks against Taiwan and U.S. aircraft carriers that may try intervening by entering the Taiwan Straits. A nuclear HEMP attack on Taiwan or on U.S. carriers in the straits could have catastrophic collateral effects against China, if its critical infrastructures are unprotected.[22]

Much less is known about the extent of China's efforts to protect its critical infrastructures from HEMP compared to Russia, which always had much higher priority as a U.S. intelligence target during the Cold War. However, recent analysis suggests that the United States has grossly underestimated the size and sophistication of China's nuclear arsenal and of the infrastructure to support it. Analysts have discovered that China, like the former USSR and Russia today, has an enormous complex of underground tunnels and command posts to hide nuclear forces, support nuclear operations, and to protect at least the military critical infrastructures. The deceptively named 2nd Artillery Corps (since 2016 the People's Liberation Army Rocket Force), that is China's version of U.S. Strategic Command and Russia's Strategic Rocket Forces, has constructed 5,000 miles of tunnels for military infrastructure, a complex that is described as "the Underground Great Wall." [23]

China appears to have been much more successful than Russia, in part because of U.S. negligence, in hiding its preparations for nuclear conflict. Given China's knowledge of HEMP effects, and development of Super-EMP weapons as potentially decisive instruments for winning a war, it

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[22] See earlier on China's plans for EMP attack on Taiwan and U.S. carriers and see also reporting on declassified U.S. intelligence report in Bill Gertz, "Report: China Building Electromagnetic Pulse Weapons for Use Against U.S. Carriers" Washington Times (July 21, 2011). See the redacted previously classified report at http://www.examiner.com/slideshow/declassified-intelligence-report-details-chinese-plansfor-war-against-us. Example PRC open sources: Ye Jian, "Armchair Strategy: Using A Bomb To Deal With Aircraft Carriers" Jiefang Ribao (February 12, 2000) translated in FBIS CPP20000212000019. Feng Changsong, "Six Aircraft Carrier 'Busters'," Zhongguo Guofang Bao (March 5, 2002), p. 4. Wang Jiasuo, "Aircraft Carriers: Suggest You Keep Out of the Taiwan Strait!" Junshi Wenzhai (April 1, 2001), pp. 58-59.

[23] See report on a study by Phillip A. Karber for the U.S. Defense Threat Reduction Agency in Bret Stephens, "How Many Nukes Does China Have?" Wall Street Journal (October 24, 2011). Russell Hsiao, "China's Underground 'Great Wall' and Nuclear Deterrence" China Brief, Vol. 9, Issue 25, Jamestown Foundation (December 16, 2009). See also sections "Secrecy and Deception" and "Integrated Network Electronic Warfare" in Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the Peope's Republic of China 2011* (Washington, D.C.: Office of the Secretary of Defense, 2011) p. 25 and "PLA Underground Facilities" p. 36.

seems a virtual certainty that China's preparedness to survive and recover from a manmade HEMP or natural EMP/GMD event is much greater than that of the United States.

If Russia and China are prepared to survive and recover from the HEMP effects of a nuclear war, they would also be well prepared to survive and recover from even the worst natural EMP/GMD effects generated by a geomagnetic superstorm, like recurrence of the 1859 Carrington Event. The EMP/GMD fields created by a geomagnetic superstorm, though they can cover a much larger area, are not as severe as the HEMP from the most powerful nuclear weapons. Geomagnetic storms produce no E1 HEMP, the powerful electromagnetic shockwave from a nuclear weapon that can couple into small targets and cause deep systemic damage. The natural EMP/GMD generated by a geomagnetic superstorm would be significantly less powerful than the E3 HEMP generated by some high-yield nuclear weapons.[24]

China's "No First Use" Fiction

Many China experts in government and academia, and especially among anti-nuclear activists like the Union of Concerned Scientists and Federation of American Scientists, are unworried by China's rapidly growing nuclear capabilities, hypersonic and Super-EMP weapons, because Beijing's official policy promises they will not be first to employ nuclear weapons in a conflict.[25] Beijing promises that their nuclear forces are for deterrence and retaliation only—not for aggression.

Western analysts consistently fail to understand that, for both Beijing and Moscow, nuclear war plans and C3 to execute those plans are national security "crown jewels" that they try to protect and conceal behind a bodyguard of lies and disinformation. Trusting open sources and commentary—especially when they are intended to cast nuclear doctrine and C3 in the most benign possible way—is a big mistake.

For example, during the Cold War the USSR went to extraordinary lengths to disinform Western policymakers and the public that Moscow had a nuclear "No First Use" doctrine. This was intended to conceal their real nuclear war plans—that we now know entailed a massive nuclear first strike early in a conflict. The "No First Use" disinformation campaign was also intended to mobilize Western anti-nuclear activists, in and out of government, to constrain U.S. nuclear programs and operational plans.[26]

China's alleged nuclear "No First Use" doctrine, like the USSR's during the Cold War, is almost certainly disinformation.

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[24] EMP Commission, *Recommended E3 HEMP Heave Electric Field Waveform for the Critical Infrastructures* (Washington, DC: July 2017).

[25] See for example: Gregory Kulacki, "Would China Use Nuclear Weapons First In A War With The United States?" The Diplomat (April 27, 2020). Fiona Cunningham, "The Role of Nuclear Weapons in China's National Defense" RealClearDefense (May 28, 2020).

[26] "Soviets Planned Nuclear First Strike to Preempt West" National Security Archive nsarchive.gwu.edu/NSAEBB/NSAEBB154/index.htm.

"No First Use" for China does not withstand the test of common sense. No conservative military planner would adopt "No First Use" when China lacks BMEWS and satellite early warning systems that would enable China to launch on tactical warning. "No First Use" would doom China's nuclear deterrent to certain destruction by a U.S. or Russian conventional or nuclear first strike, or to a nuclear first strike by India.[27]

China's nuclear posture, especially the lack of early warning radars and satellites, is "use it or lose it" which logically should drive PRC military planners toward nuclear first use—indeed toward surprise first use early in a crisis or conflict, based on strategic warning.[28]

Regardless of the PRC's declaratory "No First Use" policy, it strains credulity Beijing's political leaders would adhere to "No First Use" if confronted with compelling political and military intelligence of an imminent U.S. attack. Such strategic warning was the basis for the former USSR's secret plans for a disarming nuclear first strike under their VRYAN (Surprise Nuclear Missile Attack) intelligence program, that nearly resulted in a nuclear apocalypse during NATO's theater nuclear exercise ABLE ARCHER-83.[29]

Fortunately, at least some U.S. military leaders are not as naïve as academics about China's "No First Use" pledge. Chief of U.S. Strategic Command, Admiral Charles Richard, testified to the Senate Armed Services Committee in February 2020 that he could "drive a truck through China's no first use policy."[30]

China's unprecedented rapid expansion of its nuclear and missile capabilities is not consistent with a belief in "Minimum Deterrence" and "No First Use" but looks imitative of Russia's policy seeking escalation dominance for nuclear diplomacy and nuclear warfighting. Lt. General Robert Ashley, Director of the Defense Intelligence Agency, warned in 2019: "China is likely to at least double the size of its nuclear stockpile in the course of implementing the most rapid expansion and diversification of its nuclear arsenal in China's history…China launched more ballistic missiles for testing and training than the rest of the world combined."[31]

China's political and military leaders have often threatened nuclear war, and in 2011 reportedly: "Former Chinese General Xu Guangyu…suggested China was planning a surprise missile attack on the American homeland."[32]

The PLA Second Artillery Corps (now the People's Liberation Army Rocket Force, equivalent to U.S. Strategic Command) leaked a planning document "Lowering the Threshold of Nuclear Threats" that stipulated some conditions where, in response to U.S. conventional attacks, China

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[27] Dr. Peter Vincent Pry, "Underestimating China's Nuclear Threat" Washington Times (August 13, 2019).
[28] Ibid.
[29] President's Foreign Intelligence Advisory Board (PFIAB), *The Soviet "War Scare"* (February 15, 1990). Dr. Peter Vincent Pry, *War Scare: Russia and America on the Nuclear Brink* (Praeger, 1999) Chapter 2 "Operation VRYAN."
[30] Admiral Charles Richard, Senate Armed Services Committee Hearing (February 13, 2020) and quoted in Ibid.
[31] Letter to President Donald Trump from Senators Ted Cruz, Tom Cotton, and John Cornyn (May 27, 2020) https://www.cruz.senate.gov/?p=press_release&id=5131.
[32] Gordon Chang, "Will China Launch A Nuclear 9/11?" FoxNews.com (September 9, 2011).

would launch a nuclear first strike. For example: "Targets that could draw such a response include any of China's leading urban centers or its atomic or hydroelectric power facilities."[33]

China's military doctrine—including numerous examples presented here of using HEMP attack to win on the battlefield, defeat U.S. aircraft carriers, and achieve against the U.S. homeland a surprise "Pearl Harbor" writ large—is replete with technical and operational planning consistent with a nuclear first-strike. Indeed, China's classification of HEMP attack in military doctrine as "electronic warfare" or "information warfare" indicates that HEMP is not even considered a form of nuclear attack, but would be equivalent to non-nuclear EMP weapons and cyber warfare.

In 2020, a panel of China's military experts threatened to punish U.S. Navy ships for challenging China's illegal annexation of the South China Sea by making an EMP attack—one of the options they considered least provocative, because the crew would be unharmed, but most effective, because the ship would be disabled.[34] This too, like other evidence, suggests Beijing considers HEMP attack as something short of nuclear or even kinetic conflict, akin to "gray zone" threats like electronic and cyber warfare.

[33] Kyodo News (GSN August 17, 2010). "China Could Consider Nuclear First Use, Documents Indicate" NTI: Global Security Newswire (January 5, 2011).

[34] John Hayward, "China Threatens EMP Attack In South China Sea" Breitbart (March 17, 2020).

Source: "Missile Threat: CSIS Missile Defense Project"
https://missilethreat.csis.org/country/china

CHINA: MISSILES CAPABLE OF EMP ATTACK

MISSILE	TYPE	RANGE
DF-5	ICBM	13,000 km
DF-31	ICBM	8,000-11,700 km
DF-41	ICBM	12,000-15,000 km
DF-4	IRBM/ICBM	4,500-5,500 km
DF-26	IRBM	3,000-4,000 km
JL-2	SLBM	8,000-9,000 km
DF-17	HGV	1,800-2,500 km
DF-21	MRBM	2,150 km
HN-3	cruise missile	3,000 km
HN-2	cruise missile	1,400-1,800 km
HN-1	cruise missile	50-650 km
DF-16	SRBM	800-1,000 km
DF-15	SRBM	600 km
DF-12	SRBM	420 km
DF-11	SRBM	280-300 km

All China's missiles are listed here, as all are potentially capable of EMP attack if armed with a nuclear weapon or non-nuclear EMP warhead.

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OPINIÓN INVITADA

The China Threat: Global Power Relations, Political Opportunism, Economic Competition

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David S G Goodman[1]

For the more than a quarter of a century before approximately 2017, economic growth in the People's Republic of China [PRC] led to it being regarded by almost all the governments of the more developed countries of the world as at the very least an economic partner of considerable merit. Some, like the then Prime Minister of the United Kingdom, David Cameron and his Treasurer went even further towards the recognition of a cargo-cult describing their new relationship with China as establishing a 'Golden Era' (Reuters, 2015). Certainly, the attraction of cheap labour in a growing manufacturing environment, the increase in machinery and heavy industrial development, and the prospect of a rapidly expanding consumer market were all drivers of economic globalisation at that time, with the PRC at its heart. In the last four years though this promise has been replaced, at least in the public discourse in many of the same countries, especially in the USA, the UK, Australia, and across Western Europe by concerns that China represents a threat to the rest of the world. The drama of the new China Threat is that it is not just represented as a challenge to economic production elsewhere in the world, with entailed disruptive consequences for workers and capital. China is now said to pose a strategic and military threat to the peace of the world, from a country (and its government) which will not observe the current rules of the international order. China is now regarded by many as an existential threat, in the words of the then Australian Prime Minister Malcolm Turnbull in 2017 'to our way of life' in introducing his country's new foreign policy (Australia Department of Foreign Affairs and Trade, 2017).

An examination of the various claims that China presents an existential, a military, or an economic threat to the rest of the world are largely unfounded.

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Despite the parallels that are sometimes drawn between China today, on the one hand, and Nazi Germany or Showa Japan, on the other, in the 1930s, China's rise as an economic power has no imperial ambition in either the European or the American mould. The PRC is certainly driven by a desire to be recognized as a global power and to be internationally influential. It has certainly become more assertive internationally under Xi Jinping, the current President of the PRC and General Secretary of the Communist Party of China [CCP]. At the same time, the claimed China Threat rapidly disintegrates on closer inspection to reveal challenges that leaders of influence (politicians, journalists, and sometimes even academics) outside the PRC sometimes find hard to deal with appropriately, preferring instead either to embrace the political opportunism represented by the consequences of a 'rising China' in their domestic constituencies or out of concern for their own narrow national economic interests, or indeed both. This is clearly the case for those in the USA who have taken the leading position in the development of the myth of the China Threat. The irony of course is that the increased opportunity for economic integration presented by the same 'rising China' may actually be of greater benefit to each country's citizenry than the economic protectionism promised through offers along the lines of 'Make America Great Again.'

The Existential Threat

The now often-cited development of a new Cold War between the USA and the PRC speaks to the existential threat that some people outside China believe is the present and the future of relations between the two countries, and indeed between China and other parts of the world. In the Cold War the face-off between the Soviet Union [Union of Soviet Socialist Republics, USSR] and the USA was clearly an existential threat. The USSR presented an alternative politics, and alternative government, economic and social systems, not only different to the USA and its brand of liberal democracy, but also both seeking to replace it, and, as the experience of Eastern Europe post-1945 proved in the extreme, willing to expand beyond its initial borders.

In the new Cold War China is equated not only with the USSR as was, but also with Nazi Germany and is described as they were as both an 'Orwellian police state' and totalitarian (Hoover, 2021, p. 2). Both aspects of that characterisation are important. In that view, the population is totally controlled in every way by the Communist Party of China [CCP] and politics is everything,

there is no space for a separate society which is totally subsumed by the state (Schapiro, 1972). As a result, there is no room to argue that Chinese people are to be differentiated from the government system of the PRC, let alone the CCP. As the Director of the United States Federal Bureau of Investigation [FBI] is reported as having said in testimony to a USA Senate Intelligence Committee 'China is not just a whole of government but a whole of society threat on their end' (Redden, 2018). Moreover, in the USA at least anti-communism is clearly an important aspect of the new Cold War against China which is held to threaten 'the free world' and capitalism, and unsurprisingly the same organisations associated with fighting the earlier Cold War, such as the Hoover Institution, are now in the vanguard of the new politics (Diamond & Schell, 2018; Hoover, 2021).

Certainly not every leader of influence in either the USA or elsewhere thinks that China is any kind of existential threat (Bade, 2021; Swaine, 2021a) or indeed that the existential threat is to be experienced in quite the same way as that provided earlier by the USSR. In early May 2021, the one-time Republican presidential candidate in the USA Mitt Romney argued that 'We (the USA) can't look away from China's existential threat' in the following terms:

> China will replace America. China is on track to surpass us economically, militarily, and geopolitically. These measures are not independent: A dominant China economy provides the wherewithal to mount a dominant military. Combined these will win for China the hearts and minds of many nations attuned to their own survival and prosperity. (Romney, 2021)

There are though held to be some common key markers in the challenge said to result from China's increased economic strength and political assertiveness, in addition to the more obvious military and economic considerations (to be considered in each of the next two sections). One is the ideological conflict between democracy and authoritarianism; a second is Beijing's perceived challenge to the international rules-based order, which it is claimed sustains global stability; and a third is the claim that China engages in considerable overseas influence operations in other countries that amount to interference and the subversion of the domestic politics of other countries.

Ideological Conflict

The direction of these claims is hard to understand, and they remain largely unsubstantiated in detail. While it is undoubtedly the case that the PRC is a Communist Party-state, the CCP has clearly embraced the importance of the market and capitalism, domestically and internationally. There are those who argue that the success of the PRC in the last few decades has come from its embrace of capitalist practices (Halper, 2010). While not everyone would agree with such statements, even if its variety of market socialism has emerged from state socialism, and adapted aspects of state capitalism (notably the continuation of a limited if still significant state sector of the economy with state-owned enterprises) large parts of the Chinese economy are more like free market capitalism than any form of socialist economic system. The former socialist working class has shrunk in size, and in economic and definitely political importance. Its place has been taken by a new precariat working class of migrant rural workers (Blecher, 2021). There remains a small state sector of less productive enterprises, though they too are subject through the CCP's political leadership to economic competition and market forces (Naughton, 2010) and eight of the remaining 97 national state-owned enterprises (managed through the State-owned Assets Supervision and Administration Commission) are listed on the three leading stock exchanges in the USA (US-China Economic Commission, 2021).

Since the start of the Reform Era in 1978, the PRC has dropped all claims to exporting revolution, and indeed adopted an oft-repeated policy of non-intervention in the affairs of other countries. While the topic is much debated with the PRC, nonetheless the basic premise is still maintained (Zheng, 2016). As Rana Mitter has recently pointed out, interdependence "is at the heart of the PRC's contemporary international relations. Moreover, "Socialism with Chinese characteristics" (the formula for the Reform Era) is, by definition, not a system that can be reproduced elsewhere' even if certain of its experiences, such as poverty reduction, might be useful to other countries (Mitter, 2021).

At the same time, PRC foreign policy has moved from the earlier more passive stance advocated by Deng Xiaoping to 'keep a low profile' *(Taoguang-yanghui)* internationally (Deng, 1992). Under first Hu Jintao (to 2012) then subsequently Xi Jingping, the PRC's foreign policy has become more pro-active in seeking to establish a 'community of common destiny' where the world is characterised by mutual cooperation, economic integration, and shared re-

sponsibilities as well as shared interests. This model of international relations is explicitly presented as providing an alternative to the perceived domination of the United States and its allies.

There is an obvious challenge to the USA in the notion of a 'community of common destiny' which implicitly suggests that the USA's may be disproportionately influential. This is the sense in which Wang Huiyao, head of the China Centre of Globalisation has written that 'China is both an engine for global economic growth and a contributor to global order' (Wang, 2021). One consequence of this push is that some in the USA have accused the PRC of not abiding by and threatening the rules of the international order (Hoover, 2021, p. 1) and this has led to an international relations academic literature considering whether in more polite language a rising China is a norm-taker or a norm-maker (Reilly, 2012). Somewhat surprisingly perhaps, the evidence of independent research is that the PRC has long been a far better upholder of the rules of the international order than the USA, though clearly China is also trying to both limit the leading position of the USA and to create new procedures and patterns of acceptable behaviour that to some extent privilege its position rather than that of the USA (Kent, 2007; Johnston, 2008). The Belt and Road and the Asia Infrastructure Investment Bank are new PRC-led initiatives to that end, though they exist alongside the PRC's participation in the structures of the established international order through Climate Control discussions (Gippner, 2020) and significant contributions to the UN Peace-keeping Force (Gowan, 2015).

Influence and Interference

There are those in other countries, such as the Australian Strategic Policy Institute, who claim vociferously that China is subverting democracy elsewhere in the world through various activities including overly close relationships with foreign politicians, the development of Confucius Institutes, the spread of the Wechat social media platform, in all of which the role of the CCP's United Front Work Department and other state and Party agencies feature prominently (Joske, 2020b; Joske et al., 2020). A similar argument is made about the unsafe cooperation between universities and their academic staff and researchers in, on the one hand, China, and on the other, different parts of the world. Here the argument is that ideas, technology, and discoveries

are being stolen or being used to inappropriate purposes by the PRC (Cave et al., 2019; Burton, 2021; Hoover, 2021).

Some of those voices that are concerned about or opposed to China's increased role in international politics accept that the attempt to create influence in another country is not the same as interference. In the USA for example, claims of Russian interference in the 2016 Presidential Election were well-publicised. Yet a Hoover Institution report still explicitly indicated that the PRC had not engaged in that kind of activity (Diamond & Schell, 2018). Yet others fail to make the distinction – in the USA, those who have argued strongly that Confucius Institutes should be closed in universities, in particular the Presidency and State Department under President Trump (Riechmann, 2020; Redden, 2020); in Australia the attention of similarly-minded critics focuses on politicians, academics, and the Chinese language media, notably instigated through the work of the Australian Strategic Policy Institute (Hanson et al., 2020; Joske 2020a; Joske et al., 2020).

There is a clear need for a broader perspective on these various influence activities. It seems unlikely that the Confucius Institutes are any more dangerous than other examples of cultural diplomacy such as the UK's British Council offices, or the USA's USIS [United States Information Services] (to 1999) though of course there have been times and places when and where both those were regarded as agents of foreign interference, some even in recent memory: for example, Hong Kong, 1955 (Oyen, 2014); Russia, 2008 (Reuters, 2008); Iran, 2019 (PressTV, 2019). Propaganda is in any case universal and it would be self-defeating for an open society to attempt to restrict or censor information flows, regardless of the source. Not to mention that repression of ideas usually proves counter-productive: as for example, with the impact of persecution on the early Christians in Ancient Rome, or resistance to Buddhism in China during the 6th and 9th Centuries. Similarly, attempts to limit scientific and technological cooperation with researchers in the PRC are misplaced. The development of science and technology is a universal public good, though specific applications may and should clearly be subject to the authorisation and control of particular states.

Political Opportunism

Many of these claims that China constitutes an existential threat clearly play well with some politicians as well as with electorates whose voters have lost

out for some time to the processes of economic globalisation, technological change, and climate change. Citing China as responsible for the social and economic disruptions that result is easy if not exactly responsible. At the end of the day, sending manufacturing to locations where labour is cheaper only makes sense if states are prepared to redistribute (usually through taxation) the wealth that is created. Tariff wars and protectionism do not meet populist expectations under such circumstances since the result will be a decline in the working populations' standard of living (Marchand, 2017). Reducing fossil fuel capacity similarly will only prove politically acceptable if state intervention provides assistance, as in Germany (Bundesrat, 2020). And as with manufacturing and services, technology is not nationally determined but subject to the global market, with the same consequences. China, and its dramatic economic growth patterns of the last few decades, may well be at the centre of some of these activities. At the same time, as the opposition spokesperson on foreign affairs in Australia recently pointed out, domestic fear-mongering is not just socially and economically irresponsible; it is also politically counter-productive, internationally always and domestically in the long-term (Wong, 2021).

In Australia, the China Threat has indeed become manifest through precisely the emergence of such political opportunism. Max Suich recently described that process in after 2017 under Prime Ministers Malcolm Turnbull (2015-18) and Scott Morrison (since 2018):

> Quite early, the domestic political advantages of a China threat narrative were grasped by coalition ministers and advisers. It would play to the Coalition's polling strength as a defender of national security. The alp could be wedged as a friend of Beijing. Washington would approve. For Malcolm Turnbull, re-elected with a bare majority of one, the hawks of the Abbott rump of the Coalition backbench would be mollified. In 2021, domestic political advantage is now a key driver of China policy. (Suich, 2021)

In the USA at the end of April 2021 the US Senate Foreign Relations Committee approved the bipartisan *Strategic Competition Act 2021* specifically designed 'to address issues involving the People's Republic of China.' This act has with some justice been described within the USA as one that 'constitutes a *de facto* declaration of a cold war with the People's Republic of China' (Swaine, 2021b). Subsequently the *Strategic Competition Act* has been combined with the *Endless Frontier Act* and the *Meeting the China Challenge Act* (with additional

inputs from the Homeland Security and Government Affairs Committee, the Judiciary Committee, and the Committee on Health, Education, Labor and Pensions) in a newly named *United States Innovation and Competition Act 2021* to provide policy and funding in this new cold war against the PRC (US Senate, 2021). The first two paragraphs of the *Strategic Competition Act* (now incorporated in wider proposed legislation) are instructive in terms of understanding the nature of the current China Threat:

> Congress makes the following findings:
> (1) The People's Republic of China (PRC) is leveraging its political, diplomatic, economic, military, technological, and ideological power to become a strategic, near-peer, global competitor of the United States. The policies increasingly pursued by the PRC in these domains are contrary to the interests and values of the United States, its partners, and much of the rest of the world.
> (2) The current policies being pursued by the PRC—
> (A) threaten the future character of the international order and are shaping the rules, norms, and institutions that govern relations among states;
> (B) will put at risk the ability of the United States to secure its national interests; and
> (C) will put at risk the future peace, prosperity, and freedom of the international community in the coming decades.

Paragraph 10 echoes earlier equations of influence and interference both in the USA and elsewhere with respect to The China Threat.

> (10) The prc is promoting its governance model and attempting to weaken other models of governance by—
> (A) undermining democratic institutions;
> (B) subverting financial institutions;
> (C) coercing businesses to accommodate the policies of the PRC; and
> (D) using disinformation to disguise the nature of the actions described in subparagraphs (A) through (C).

It is clear from this proposed legislation that its proponents are concerned primarily with the challenge that China poses to the leading international position of the USA and that country's national interests. In that process there is an equation presented of that leading position and the interests of the USA, on the one hand, and the interests of the world, on the other. Necessarily then the ideational aspects of the challenges posed by China's increasing economic

and political importance draw further attention to the consequent military and economic challenges, especially in relations between the USA and PRC.

The Military Threat

At first sight, the military and strategic threat posed by China's economic development seems obvious, though not everyone has gone as far as the Secretary of the Australian Department of Home Affairs and a senior national security official, Mike Pezzullo, or the Australian Minister of Defence, Peter Dutton. Pezzullo it was who on ANZAC Day 2021 (the day on which Australia acknowledges its war dead) in a message to his staff later published in *The Australian* warned that 'the drums of war are growing louder.' Echoing the idea of an existential threat, Pezzullo referred to President Eisenhower's view in 1953 that 'as long as there persisted tyranny's threat to freedom they (the free nations) must remain armed, strong and ready for war, even as they lamented the curse of war' (Pezzullo, 2021). For his part, Dutton on the same day in a television interview opined that 'war with China over Taiwan could not be discounted' and then a week later in a newspaper interview commented that 'the Australian Defence Force was prepared for action, saying the country needed to be in a position to defend its waters in the north and west as a clear priority' (Galloway, 2021).

Certainly, the PRC has increased its defence expenditure, and perhaps more importantly professionalised its military and upgraded its military technology with the changed economic development strategy since 1978. Indeed, modernisation of the People's Liberation Army [PLA] was central to that change before even it was formally approved as a policy by the CCP. That process has continued over the intervening decades with news leaking out in May 2021 that the PRC would have stealth bombers capable of reaching the US territories of Guam and the Mariana Islands in the North-west Pacific by the end of the decade (Huang, 2021). Even more dramatically though the apparent military, and to some extent expansionist or imperialist threat is said to be found in the PRC's attitude to the South China Sea and over the future of Taiwan. At the same time, in both cases while the problems inherent in each are real enough the lack of perspective in determining China as a threat rather than a challenge open to negotiation is possibly of greater concern.

The PRC's claimed maritime boundaries have from the establishment of the new regime in 1949 included both the majority of the South China Sea

and the island of Taiwan. These claims result not just from a historical narrative fundamental to the nationalistic ideology of the CCP with its roots in the late Qing Dynasty —as is the case with its land borders (Shabad, 1956)— but also from a shared narrative with the Nationalist Party and the Republican Government, first in civil war and then later when the Nationalists fled to Taiwan. Contemporaneously, while there is military presence in or close by both locations, there is also government-level negotiation. The PRC's military activities in the South China Sea may have certainly increased in the last decade, but the increase in tension over Taiwan seems to have resulted from an increased threat assessment in Washington.

China has claimed jurisdiction over the South China Sea since 1947 when the then Government of the Republic of China included the large maritime area to the south of China's landmass in its maps. This area was demarcated by an 'eleven-dash line,' as indicated on maps of the region at that time. The area covers some 3.5 million square kilometers, and something like 250 largely previously uninhabited islands and rocks. The South China Sea is long disputed amongst the surrounding governments including the PRC, the Philippines, Vietnam, Malaysia, Taiwan, Brunei and Indonesia, all of whom (except Brunei) have occupied or developed islands and other features. Vietnam has the largest number of control points (21). During 2013-2018 the PRC developed military bases, naval facilities, and airstrips, and built artificial islands in the Paracels and Spratly Islands, and has made to develop the Scarborough Shoal off the coast of the Philippines.

At issue amongst the claimants to parts of the South China are fishing and mineral rights as well as trade routes, though many countries from outside the immediate region (the USA, Australia, France for example) have also been involved in discussion of the control of shipping corridors. The latter has become particular important in the last few decades, generally and particularly for China. About a third of all world sea trade passes through the South China Sea, 40 percent of China's total trade and most of its energy imports. Despite the occupation of islands and development of military facilities, government negotiation rather than military confrontation has characterised disputes. There have been no military engagements even over contested occupations since 1988. In 2000 China and Vietnam agreed on zones of control in the Gulf of Tonkin, which amongst other things reduced the 'eleven-dash line' to a 'nine-dash line'. A Code of Conduct between China and ASEAN [the Association of Southeast Asian Nations] is currently being

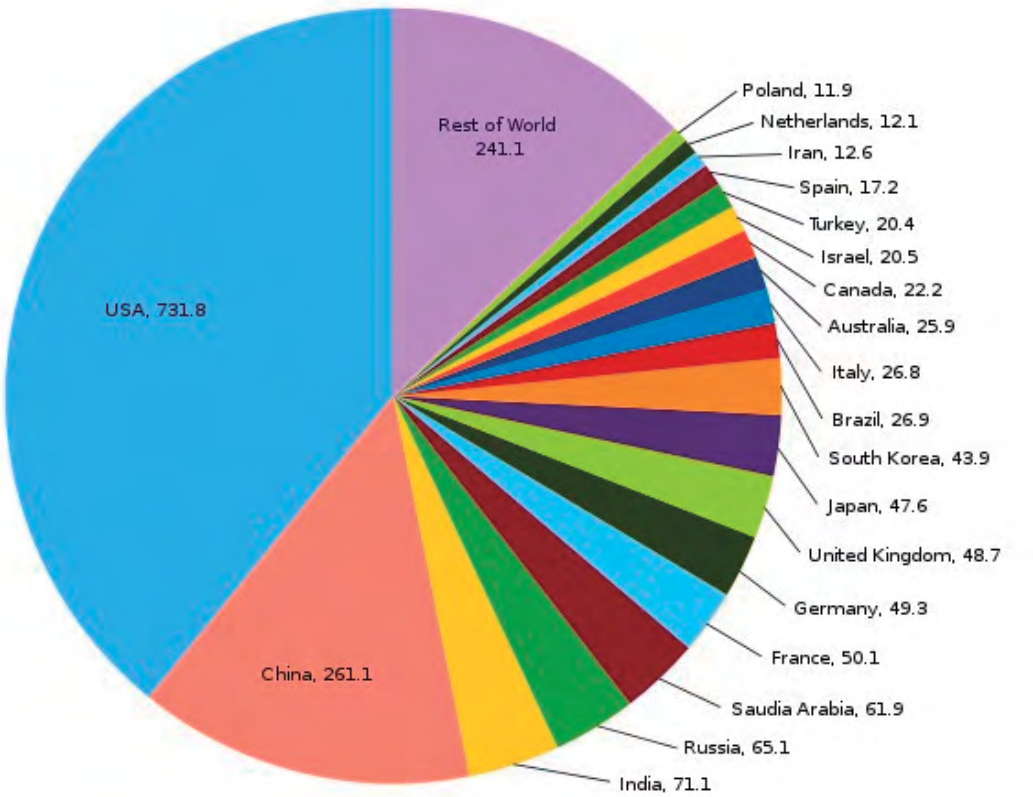
negotiated (Kaplan, 2014; Hawksley, 2018; Scobell, 2018; Strangio, 2021). Perhaps even more remarkably, despite winning in an arbitration under the United Nations Convention of the Law of the Sea in 2016 against PRC activities off The Philippines, in May 2021 Rodrigo Duterte, President of The Philippines described the ruling as 'trash' and 'a waste of time and at the same time disrupting the good relations of China and the Philippines' (CNN, 2021).

Conflict over Taiwan is even more complex, though surprisingly despite all the sabre-rattling now and in the past, even more devoid of military engagement. The PRC claims Taiwan as a 'renegade' province, probably less because of late Qing history —Taiwan was designated a province from 1887 to 1895 before being ceded to Japan (van der Wees, 2020)— than because of the history of the Republican Government. Taiwan was returned to China after the Second Sino-Japanese War (World War II) in 1945, and when defeated on the mainland in 1949 the Nationalist Party took the Republic of China and its governmental system to Taiwan with the promise of returning and re-uniting the country. This formula lasted until well into the era of open political competition on Taiwan in the 1990s, and the questions of independence and the relationship with Mainland China remain unresolved and contested in domestic Taiwan politics. Many argue that Taiwan has never or rarely been part of China, while others argue for self-determination and others still for constructive cooperation of various kinds with the PRC (Cole, 2021; van der Wees, 2021). In a clear example of strategic ambiguity, the government of Taiwan is still formally described as the Republic of China.

While the East China Fleet and other forces of the PLA have long held annual exercises to (re)take Taiwan, the CCP has always seen the (re)incorporation of Taiwan as to be solved politically not militarily. There are several reasons for this beyond the most obvious shortcomings that might result from an invasion strategy: the lack of effective military capacity to take and hold Taiwan; loss of international profile; and the dangers of a wider conflict; not to mention the end of economic and technological cooperation across the Taiwan Straits (Parton, 2021). Above all though the CCP has always acted to discourage Taiwan independence believing that reunification might be achieved through peaceful means on its terms. The threat of military action fits into that strategy as a more potent weapon than armed conflict. In early 2019 when Xi Jinping last focused to any extent on the Taiwan question he linked his goal of 'national rejuvenation' with the peaceful reunification of Taiwan but with only the vague goal of achieving this by 2049, presumably

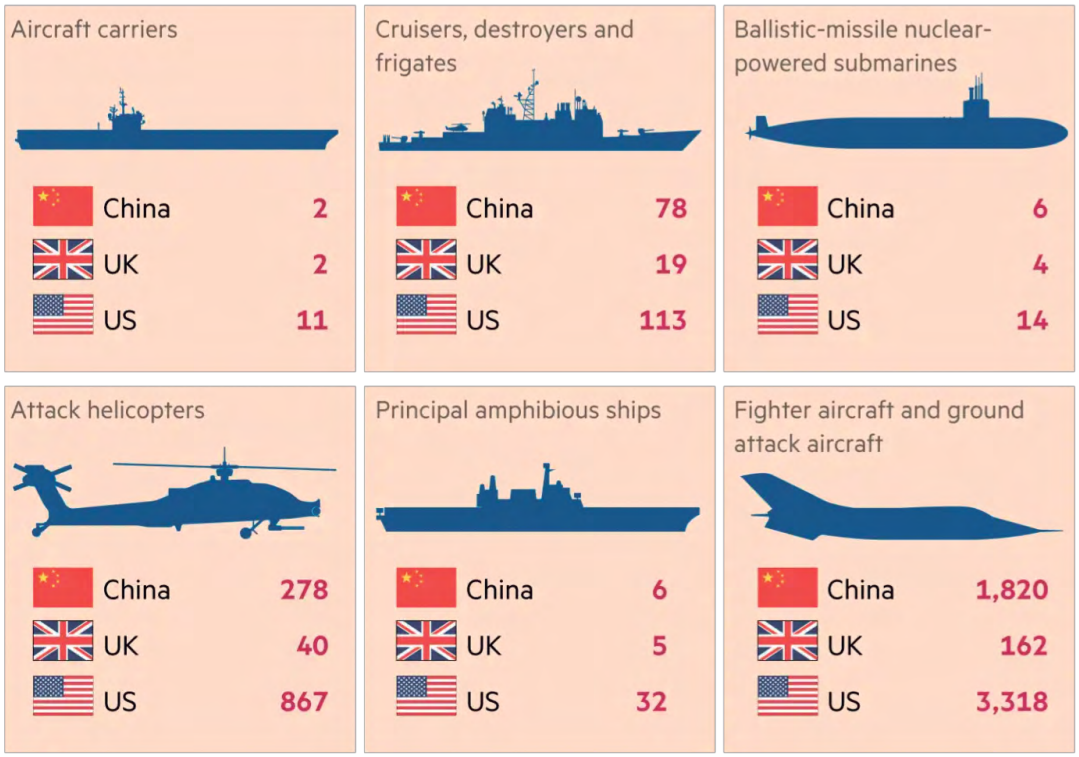
because that would be appropriate for the 100th anniversary of the establishment of the PRC (Xi, 2019). These considerations have though not stopped military interests in the USA from arguing not only that the CCP under Xi Jinping is preparing to launch an attack on Taiwan, but that this will occur in the immediate future. In early 2021 these views were reported to the US Senate Committee on Armed Services (US Senate Armed Services, 2021). This seems to be the origin of the current wave of heightened emotion both in the USA and in Australia, where these views were echoed in particular by the Australian Strategic Policy Institute prior to the comments by Pezzullo and Dutton (Jennings, 2021; Herscovitch, 2021).

Figure 1
Military Expenditure by Country, 2021



Source: SIPRI (2021).

Figure 2
Military Assets by Country, 2021



Source: IISS Military Balance 2021
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This lack of perspective about the military challenges posed by the PRC is with one exception further evidenced by comparative data on military expenditure and military hardware capacity between the USA and the PRC. Figure 1 provides information about military expenditure by country; Figure 2 a comparison of military capacity for the USA, UK, and PRC. In 2020 world military expenditure was approximately US$1,981, with 39 percent being spent by the USA and 13 percent by the PRC. In 2020, the USA increased its military expenditure by 4.4 percent, the PRC by 1.9 percent (Lopes da Silva et al., 2021). USA military expenditure is 3.1 percent of GDP at nominal value; the PRC's represents 1.9 percent. Differences in military expenditure are reflected in fairly obvious differences in military capacity. The comparison with the UK in Figure 2 is instructive: the PRC is closer to a middle-ranked power than to the USA. The one exception to the obvious conclusion is of course that while the PRC is to date a regional military power, with its focus on East Asia; the

USA has a more global military deployment perspective. While clearly an argument is being made in Washington for increased military expenditure, the extent of the challenge from the PRC needs to be kept in perspective.

The Economic Threat

As with the military threat from the PRC, consideration of the economic threat is similarly lacking in perspective. Much is made of the point at which the PRC's GDP will exceed that of the USA. Estimates are currently that this will occur in a few years' time: 2026 according to *Fortune* magazine (Elegant, 2021); 2028 according to the BBC (BBC, 2020). In nominal terms the USA currently (2021) has a GDP of US$22.7 trillion, the PRC US$16.6 trillion. If adjusted for purchasing power parity, the US GDP is currently US$22.7 trillion, and the PRC's GDP US$26.7 trillion (all information from the International Monetary Fund Dataset). There is certainly economic competition amongst the countries of the world, and even to some extent between the USA and PRC, yet the idea that China is an economic threat, especially to the USA, rather than simply a challenge to be negotiated, needs modifying. It is far-fetched to argue that the PRC economy will supplant the USA economy any time soon, not simply because of the strengths of that economy but also because of the limitations of the PRC economy. There are substantial scale differences between the economies of the PRC and the USA; a goal and strength of the PRC's economic development strategy is its integration with the rest of the world; and despite considerable growth in the last four decades, the PRC's economy faces its own challenges.

The difference in scale between the economies of the PRC and the USA is considerable. They may be the two largest gross GDP economies but the superior strength of the USA, even in gross terms and despite problems associated with the use of a GDP index to these ends (Feldstein, 2017) is far superior. In nominal terms, GDP per capita in the USA is US$68,309; in the PRC it is $11,819. The PRC's GDP per capita is just below the global average of US$12,167 (International Monetary Fund). The PRC not only has a far larger population (approximately 1,439 million, compared to 331 million people in the USA) its economic geography is considerably more varied, inequality far greater, and productivity much lower (West, 2019). In the large metropolitan areas (Beijing, Tianjin, Shanghai, Guangzhou, Shenzhen) and provinces (Jiangsu, Zhejiang, Guangdong) of the Eastern and Southeastern Seaboard economic

development is advanced by any standard. Some two-thirds of the population of Jiangsu are regarded as having reached middle-class income standards in a province of 80.7 million, where the area in that province north of the Yangtze has long been noted for its poverty (Wei & Fan, 2020). While there are pockets of poverty and economic backwardness on the Eastern Seaboard and in the South of China, the areas in the Northwest and Southwest of China remain considerably less developed (Goodman, 2004). In May of 2021, at a major national discussion of economic development, Justin Lin, one of China's leading state economists pointed out that when China's national GDP per capita eventually does reach half that of the USA it is likely that the GDP per capita of the coastal provinces and the major Eastern Seaboard municipalities will be roughly equal that of the national GDP per capita in the USA (Lin Yifu, 2021).

The PRC sees itself as a world economy, not simply because of its size and impact, but as an economy which is well-integrated with the rest of the world for production, markets and technology. The degree of the PRC's integration with the world economy is easily underestimated, as Donald Trump discovered when as President of the USA he attempted to engage in economic warfare against the PRC as part of his recipe to 'Make America Great Again'. He believed that it would be possible to repatriate extraction and manufacturing industries to the USA from China and to cripple the PRC with tariffs, forgetting that much of the USA's debt is owned by China, that the PRC hosts much US investment in manufacturing and technological development, and that in any case the PRC trades with many countries and is not as dependent on bilateral trade as the USA. The Trump goal of reducing the USA trade deficit generally and specifically with China was not achieved. On the contrary, trade deficits grew substantially and even with China by the beginning of 2020, when the strategy was abandoned (Hass & Denmark, 2020; Bloomberg, 2021). By the beginning of 2021 the previous four years had seen the three largest US trade deficits in its history; November 2020 saw the largest US trade deficit in 14 years, while China achieved its highest monthly trade surplus ever in December 2020. The US-China Business Council (representing those US companies operating in the PRC) pointed out not only the lost financial returns to the USA but also the loss of half a million jobs in the USA (Bartholomeusz, 2021).

Despite the disaster of the Trump Presidency's economic relations with the PRC, the US economic remains strong, which points to the political opportunism of highlighting a hostile relationship to China, as opposed to economic desperation. For its part, the PRC's assessment of its own economic

performance is more measured. While it is clear that in some areas, especially of new technologies such as AI, batteries, electric vehicles the PRC is now world-leading (Yergin, 2020), problems remain. As already noted, the dangers of severe inequality are well-noted (Milanovic, 2021). In addition, there are frequently articulated concerns about the extent of local government debt; of access to crucial supply chains, especially those related to technology; and of the decreasing share and quality of the manufacturing sector. While about 30 percent of total world manufacturing is China-based, a PRC State Council Development Research Centre report in January 2021 and a speech by the former Minister of Industry and Information Technology (Miao Wei) at a meeting of the Chinese People's Political Consultative Conference (where he is now Chair of that body's Economic Committee) in March 2021 spelled out a series of fundamental challenges to the manufacturing sector:

> China's manufacturing sector is large but not strong, comprehensive but not outstanding —a situation that has not fundamentally changed— [...] In the four tiers of global manufacturing, China is among the third-ranked countries. It will take at least 30 years to achieve the goal of becoming a manufacturing great power. (SCMP, 2021)

These comments echoed the earlier report from the State Council Development Research Centre which had classified the PRC as a third (out of four) tier country in the world for manufacturing based on a series of indicators which included quality, effectiveness, international competitiveness, environmental friendliness, labour productivity, research and development personnel in the labour force and innovation. The USA, Germany and Switzerland were in the top tier; Japan, South Korea, France and Singapore in the second tier (SCMP, 2021).

The Politics of The China Threat

The development of the PRC's economy and its consequences for international economic and political activities certainly presents challenges to other countries both regionally and globally. On the evidence to date though it seems misleading to regard this as an existential threat. At the same time, it is clear that The China Threat as a political ideology is clearly here to stay if not forever, at least for some time. As with all strongly held-belief systems

its proponents have a strong strategic view that links their views of social values, economics, and politics (including, as in this case, military matters) in mutually reinforcing interpretations of the dangers faced by the world together with the solutions to those problems.

There seem to be three principles that are the drivers of The China Threat: a resistance to understanding processes of change in general, but particularly its social and political consequences; a commitment to maintain the USA's dominant and determinant role in global institutions and international politics; and a belief in the purity of the security forces and military interests in determining politics, domestically and internationally. Each of these is to some extent destabilising as a recipe for future world peace, but the third is actively dangerous, and conceivably more dangerous than The China Threat.

As the international experience of the USA since the 19th Century provides ample evidence, economic development is not infinitely sustainable as a one-way process which works to the exclusive advantage of the earliest, most developed parts of the world. The entire discourse that describes countries in terms of 'rise' and 'fall' and rankings is testament to more complex processes of change. In those processes, states have always experienced elements of fear of the unknown, of change in general, and of losing standing in the world. In the era of intense economic globalisation, fuelled by technological developments impacting both supply chains and information flows this resistance is almost necessarily more immediate and more intense.

The international leading position of the USA has been a key feature of the world since 1945 and the end of the Second World War. A certain amount of almost justifiable triumphalism on this count crept into US politics after the collapse of the USSR and the end of the Cold War. Reactions to any potential challenges, real or imagined, to the USA's position in international politics from within the USA, such as that reported earlier by Mitt Romney, are then to be expected. Within the USA the equation between the interests of the USA and the interests of the world are even understandable from the same perspective. More remarkable though is the acceptance of this estimate of the USA's international importance from leaders of influence in other countries. In the United Kingdom, a number of Conservative Party members of parliament formed the China Research Group as a prime advocate of The China Threat in opposition to the PRC and supporting the USA (Payne, 2020). In Australia, a group of parliamentarians from both the Liberal and Labour Parties have styled themselves as the 'Wolverines' to the same ends (Curran, 2020).

The first of those two drivers for The China Threat are significant but not as profoundly dangerous as the role in its development played by military and security interests. One danger is that those interests will create not just an acceptance of the need for armed conflict by repeatedly talking up the likelihood, as has happened in both the USA and Australia, but also the self-fulfilling prophecy of an easy escalation of the conflict into military engagement. Another even greater danger is that military and security interests have too much influence in their domestic policy-making environments, both through their supporters in political life and think-tanks, and through their involvement in information flows. This would appear to be the case not only in the USA but also in Australia. The Australian Strategic Policy Institute describes itself as 'an independent, non-partisan think tank that produces expert and timely advice for Australian and global leaders' (https://www.aspi.org.au/about-aspi) despite being funded by the Australian Department of Defence, the USA State Department, and a number of companies in the arms, defence and security industries.

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Defense Innovation Unit Experimental (DIUx)

China's Technology Transfer Strategy:

How Chinese Investments in Emerging Technology Enable A Strategic Competitor to Access the Crown Jewels of U.S. Innovation

Updated with 2016 and 2017 Data

Michael Brown and Pavneet Singh

January 2018

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DEFENSE INNOVATION UNIT EXPERIMENTAL

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Executive Summary

This report explores China's participation in venture deals[1] financing early-stage technology companies to assess: how large the overall investment is, whether it is growing, and what technologies are the focus of investment. **Chinese participation in venture-backed startups is at a record level of 10-16% of all venture deals (2015-2017)** and has grown quite rapidly in the past seven years. The technologies where China is investing are the same ones where U.S. firms are investing and that will be foundational to future innovation: artificial intelligence, autonomous vehicles, augmented/virtual reality, robotics and blockchain technology. Moreover, these are some of the same technologies of interest to the U.S. Defense Department to build on the technological superiority of the U.S. military today. The rapidity at which dual-use technologies are developed in the commercial sector has significant impact on the nature of warfare; mastering them ahead of competitors will "ensure that we will be able win the wars of the future".[2]

Because the U.S. economy is open, foreign investors, including those from China, are able to invest in the newest and most relevant technologies gaining experience with those technologies at the same rate as the U.S. does. The U.S. government does not currently monitor or restrict venture investing nor the potential transfer of early-stage technology. The primary tool the government has to block or mitigate foreign investment is the Committee on Foreign Investment in the United States (CFIUS); however, since CFIUS reviews specific deals on a case-by-case basis (rather than systematic assessments of acquisitions or acquirers) and only deals that involve a controlling interest by foreign investors (usually mergers and acquisitions), CFIUS is only partially effective in protecting national security since its jurisdiction is limited. The other principal tool to inhibit technology transfer is the U.S. export control regime. Export controls are effective at deterring exports of products to undesirable countries and can be used to prevent the loss of advanced technologies but controls were not designed to govern early-stage technologies or investment activity. Importantly, to be effective, export controls require collaboration with international allies, a long process where cooperation is not assured.

Further, venture investing is only a small part of China's investment in the U.S.--which includes all forms of investment and investor types. Investing is itself only a piece of a larger story of massive technology transfer from the U.S. to China which has been ongoing for decades. This report places venture investing within the larger context of China's long-term, systematic effort to attain global leadership in many industries, partly by transferring leading edge technologies from around the world.

U.S. military superiority since World War II has relied on both U.S. economic scale and technological superiority. U.S. technological pre-eminence enabled the series of offset strategies which included being first with nuclear weapons (the First Offset) and the electronics-enabled weapons of night vision, laser-guided bombs, stealth and jamming technologies as well as spaced-based military communications and navigation enabling the U.S. to dominate the battlefield (the Second Offset). Much of this technology came from research sponsored by the U.S. government and

[1] A venture deal is a financing that provides startup or growth equity capital provided by private investors, usually venture capitalists.

[2] The 2018 National Defense Strategy recognizes the critical role of technology development in the commercial sector for national security purposes: "The drive to develop new technologies is relentless, expanding to more actors with lower barriers of entry, and moving at accelerating speed. New technologies include advanced computing, "big data" analytics, artificial intelligence, autonomy, robotics, directed energy, hypersonics, and biotechnology—the very technologies that ensure we will be able to fight and win the wars of the future. The fact that many technological developments will come from the commercial sector means that state competitors and non-state actors will also have access to them, a fact that risks eroding the conventional overmatch to which our nation has grown accustomed. Maintaining the department's technological advantage will require changes to industry culture, investment sources, and protection across the National Security Innovation Base." p. 3

the Defense Department specifically. However, the technologies which will create the Third Offset are to a large extent being developed by early-stage technology companies with significant commercial markets. If we allow China access to these same technologies concurrently, then not only may we lose our technological superiority but we may even be facilitating China's technological superiority.

That China will grow to be an economy as large as ours may be inevitable; that we aid their mercantilist strategy through free trade and open investment in our technology sector is a choice. As a result, while strategic competition3 with China is a long-term threat rather than a short-term crisis, preserving our technological superiority and economic capacity are important issues for national focus today.

Key Points

- China is executing a multi-decade plan to transfer technology to increase the size and value-add of its economy, currently the world's 2nd largest. By 2050, China may be 150% the size of the U.S.[4] and decrease U.S. relevance globally[5].
- Technology transfer to China occurs in part through increasing levels of investment and acquisitions of U.S. companies. **China participated in ~16% of all venture deals in 2015 up from 6% average participation rate during 2010-2015.**
- **China is investing in the critical future technologies that will be foundational for future innovations both for commercial and military applications: artificial intelligence, robotics, autonomous vehicles, augmented and virtual reality, financial technology and gene editing.** The line demarcating products designed for commercial vs. military purposes is blurring with these new technologies.
- Investments are only one means of technology transfer, which also occurs through the following licit and illicit vehicles where the cost of stolen intellectual property has been estimated at $300 billion per year.[6]
  - Industrial espionage, where China is by far the most aggressive country operating in the U.S.
  - Cyber theft on a massive scale deploying hundreds of thousands of Chinese army professionals
  - Academia, since 25% of U.S. STEM graduate students are Chinese foreign nationals
  - China's use of open source information cataloguing foreign innovation on a large scale
  - Chinese-based technology transfer organizations
  - U.S.-based associations sponsored by the Chinese government to recruit talent
  - Technical expertise on how to do deals learned from U.S. firms.
- China's goals are to be #1 in global market share in key industries, to reduce reliance on foreign technology and to foster indigenous innovation. Through published documents such as Five-Year Plans and Made in China 2025, China's industrial policy is clear in its aims of import substitution and technology innovation.
- There are several examples of Chinese indigenous innovation where China is doing much more than copying technology.
- **The U.S. does not have a comprehensive policy or the tools to address this massive technology transfer to China.** CFIUS is one of the only tools in place today to govern foreign

investments but it was not designed to protect sensitive technologies. CFIUS is only partially effective in protecting national security given its limited jurisdiction.

- **The U.S. government does not have a holistic view of how fast this technology transfer is occurring, the level of Chinese investment in U.S. technology, or what technologies we should be protecting.**
- DoD has several specific areas of risk resulting from the scale of China's investments and its technology transfer:
  - Supply chains for U.S. military equipment and services are increasingly owned by Chinese firms.
  - China's targeted investments to close the gap in capabilities between its military and the U.S. military.
  - Industrial espionage and cyber theft mean key defense designs and plans are in Chinese hands.
  - There is no agreed upon list of technologies to protect for the future though an effort exists today to delineate technologies critical to current acquisition programs (JAPEC[7]).

[3] As discussed in the summary of the 2018 National Defense Strategy, the central challenge to U.S. prosperity and security is the "reemergence of long-term strategic competition" by revisionist powers such as China and Russia.

[4] According to The Economist, U.S. GDP will be $70 trillion by 2050 and China's GDP will be $105 trillion. "Long Term Macroeconomic Forecasts--Key Trends to 2050," The Economist Intelligence Unit (2015).

[5] The U.S. has not competed with an economic rival that could be larger than its own economy in 150 years.

[6] "The IP Commission Report: The Report on the Theft of American Intellectual Property," National Bureau of Asian Research (May, 2013). Retrieved at http://www.ipcommission.org

[7] Joint Acquisition Protection & Exploitation Cell, described on p. 12 of this paper.

China's Growing Investment in the U.S. & in U.S. Technology

China's Global and U.S. Investment

China's global foreign direct investment (FDI) is growing rapidly and is at a record level in a range of $200-250 billion, with $213 billion in announced acquisitions in 2016.[8,9] China's FDI investment in the U.S. in 2016 was $45.6 billion and cumulative FDI in the U.S. since 2000 now exceeds $100 billion.[10] China's investment stems from a variety of motivations. As China's economy has grown to the world's second largest, there is a commercial interest in expanding to other markets as well as a motivation for companies and individuals to diversify their investments geographically and politically as well as hedge against currency fluctuations. With the recent concerns about devaluation of the currency relative to the U.S. dollar and concerns about the underlying economic fundamentals, Chinese investors have made more investments overseas and this has led to an increased level of capital controls.[11]

China's Economic and Technology Goals

China has developed a leading global economy faster than any country in modern history. This transformation began with the reform and opening of China's economy under Deng Xiaoping in 1978. By 2015, China's GDP was $11.4 trillion compared to the U.S. at $18 trillion. However, in purchasing power parity (PPP), China is already slightly larger than the U.S. This represents the first time the U.S. has not been the largest economy since it overtook the U.K. in 1872.[29] Since the U.S. economy is growing at 1-3% and China's is growing at 5-7%, the trajectory is clear in narrowing the GDP gap (some projections show China's GDP exceeding U.S. GDP within the next decade)[30]. The time scale during which this growth occurred is stunning as China's economy has grown from 10% of the U.S. economy in the 1970s to the second largest global economy in just fifty years. Analogous growth in the U.S. economy to global leadership took a century to achieve.

China plans to further transform its economy through a national focus on technology and indigenous innovation with a goal of import substitution. To accomplish this, China aims to displace the U.S. in key industries using its large market size to promote domestic champions which can become global leaders through state subsidies, access to low-cost capital and limiting China's domestic market access to foreign companies. China already leads the world in many key industries including overall manufacturing (accounting for almost 25% of global manufacturing in 2012), autos, high-tech products, where China produced 2.5 times the value of goods that the U.S. produced in 2012[31, 32] , and e-commerce[33]. Beijing is home to the most Initial Public Offerings (IPOs) (2x the dollar value of the U.S.) and is the world's largest e-commerce retail market[34]. In fact, China has the potential to lead in all internet-based industries aided by discriminatory domestic policies such as data localization requirements, forced technology transfers and the Great Firewall which enables control over the content and flow of data on the internet. Chinese domestic champions such as Baidu, Tencent and Alibaba enjoy privileged market access in China and are market leaders domestically, while also becoming leading global technology companies.

China's leaders recognize that to achieve its economic goals, the economy must transform even faster in the future than in its recent past. The Chinese government wants to "revitalize the nation through science, technology and innovation."[35] President Xi's strategy is for China to develop its own industries to be leading globally, develop more cyber talent, double down on R&D especially of core ICT technologies and transform China to be a powerhouse of innovation. One area China has targeted for global leadership is the design and production of semiconductors. "China's strategy relies, in particular, on large-scale spending, including $150 billion in public and state-influenced private funds over a 10-year period aimed at subsidizing investment and acquisitions as well as purchasing technology." [36]Several official source documents clearly support these long-term economic and technology goals. (Summary descriptions of three documents are listed here with more documents and descriptions provided in Appendix 5.)

[29] Ben Carter, "Is China's Economy Really the Largest in the World?" BBC News (December 16, 2014)

[30] Malcolm Scott and Cedric Sam, "China and the U.S.: Tale of Two Giant Economies", Bloomberg News (May 12, 2016)

[31] High tech products are defined by the World Bank as products with high R&D intensity such as aerospace, computers, pharmaceuticals, scientific instruments and electrical machinery

[32] Jeff Desjardins, "China vs. United States: A Tale of Two Economies," Visual Capitalist (October 15, 2015)

[33] By 2010, China already led the world in several commodity industries where the US previously led such as steel (with 8x our output), cotton, tobacco, beer, and coal.

[34] E-Marketer.com: "China Eclipses the U.S. to Become the World's Largest e-Commerce Market." Retrieved at https://www.emarketer.com/Article/China-Eclipses-US-Become-Worlds-Largest-Retail-Market/1014364 (August 18, 2016)

- **Made in China 2025** is a plan designed to align State and private efforts to establish China as the world's pre-eminent manufacturing power by 2049 emphasizing the integration of information technology. Key prioritized sectors include advanced information technology, automated machine tools and robotics, aerospace and aeronautical equipment, maritime equipment and high tech shipping and biopharma and advanced medical products.[37]
- **13th Five Year Plan of 2016-2020 "Internet Plus"**[38] which deepens reforms and priorities called for in *Made in China 2025* and emphasizes stronger control by the government over national networks as China continues to control the internet domestically and gains access to global networks by controlling key component and telecommunications technologies. Key aspects include[39]:
  - Focus on catapulting China into a leading position in "advanced industries" including semiconductors, chip materials, robotics, aviation equipment and satellites;
  - Decreasing dependence on imports and innovation;
  - Increasing R&D spending to 2.5% of GDP (up from 2.1% from 2011-2015);
  - Creating a $4.4 billion fund to invest in startups and new technologies
- **China's Mega Project Priorities** are 16 Manhattan-style projects[40] to focus on specific innovations. These areanalogous to what is envisioned by Third Offset capabilities. In China these projects receive a national (not just a military) focus. Here are some selected examples (a complete list is in Appendix 6):
  - Core electronics, high-end general chips, basic software
  - Next generation broadband wireless mobile communications
  - Quantum communications
  - Classified defense-related projects (possibly satellite navigation and inertial confinement fusion)

Today, there are clear examples of Chinese indigenous innovation showing that China is doing more than copying technology – China is making progress on President Xi's goal to become one of the most innovative economies by 2020:

- **Micius Quantum Communications Satellite.** The 2016 launch of the Micius satellite suggests an aggressive push into quantum communications; expertise in quantum computing may someday enable the capability to break many existing encryption methods (based on factoring).
- **Sunway TaihuLight Supercomputer.** In June of 2016, China introduced the world's fastest supercomputer, the Sunway TaihuLight capable of theoretical peak performance of 124.5 petaflops. The TaihuLight is the first system in the world to exceed 100 petaflops (quadrillions of floating-point operations per second). More importantly, the previous version of this Chinese supercomputer used Intel microprocessors but the Sunway TaihuLight uses Chinese designed and manufactured microprocessors.[41]

[35] "Xi Sets Targets for China's Science, Technology Mastery" Xinhua (May 30, 2016).

[36] "Ensuring Long Term U.S. Leadership in Semiconductors," Executive Office of the President, President's Council of Advisors on Science & Technology, January, 2017. Retrieved at http://www.whitehouse.gov/ostp/pcast

[37] Scott Kennedy, "Critical Questions: Made in China 2025," Center for Strategic and International Studies" November 7, 2016. Retrieved at http://www.csis.org/analysis/made-china-2025.

[38] "China Unveils Internet Plus Action Plan to Fuel Growth," The State Council for the People's Republic of China. Xinhua (July 4, 2015) Retrieved at http://www.english.gov.cn/policies

[39] Lulu Chang, "China Outlines its Latest FYP Called Internet Plus," Digital Trends (March 6, 2016). Retrieved at http://www.digitaltrends.com.

[40] Michael Raska, "Scientific Innovation and China's Military Modernization," The Diplomat (September 3, 2013), Retrieved at http://www.thediplomat.com

[41] Patrick Thibodeau, "China Builds World's Fastest Supercomputer without U.S. Chips," Computerworld (June 20, 2016), Retreived at http://www.computerworld.com

- **Cruise Missile Incorporating Artificial Intelligence.** A cruise missile system with a high-level of artificial intelligence: a "semi-autonomous" weapon having the capability to avoid defenses and make final targeting decisions with a goal of destroying larger ships in a fleet like aircraft carriers.[42]
- **Consumer Drones.** DJI's (Da-Jiang Innovation) market leadership in low-cost, easy-to-fly drones and aerial photography systems which have made this company the standard in consumer drone technology accounting for 70% of the worldwide drone market.
- **Autos.** In the auto industry, China plans to take advantage of two paradigm shifts to further its lead in the world's largest manufacturing industry: autonomous vehicles and electric vehicles. China is investing in an electric vehicle supply chain including battery technology and aims to have 50% of the world's electric vehicle production and 90% of global battery production capacity.[43]

According to Tangent Link, a U.K.-based provider of defense reports, "one of the enduring myths in many Western CEO-suites is that the Chinese are great at copying and stealing, but will have difficulty 'out-inventing' the West. This arrogant and outdated hypothesis is crumbling fast."[44]

By some measures of innovation, China is already leading and without question China's capacity to innovate is rising:

- In patent applications, China already surpasses the U.S. with over 1 million patent applications received by the China State Intellectual Property Office in 2015 (up 19% year over year) compared to 589,410 patent applications received by the U.S. Patent and Trademark Office (up 2% year over year).[45]
- In academic research papers, Chinese authorship of articles in peer-reviewed international science journals increased such that China is now in 2nd place (2011) up from 13th place just a few years earlier.[46]
- China spent 1.6% of GDP in R&D in 2011 but has a stated goal of spending 2.5% of GDP R&D by 2020 – about $350 billion.[47] Combined U.S. business and federal government R&D spending is 3-4% of GDP.
- China awarded 1,288,999 Science, Technology, Engineering & Mathematics (STEM) degrees in 2014 – more than double the degrees the U.S. awarded at 525,374 degrees.[48]

To assess the comparative innovation capability between China and the U.S., McKinsey recently analyzed the industries where China has an innovation lead.[49] In traditional manufacturing industries where low costs provide a competitive advantage, China leads in innovation by leveraging a concentrated supply base and expertise in automation and modular design (examples: electronics, solar panels, construction equipment). In consumer markets, China leads given its market size (examples: smartphones, household appliances). In engineering markets, China has

42 John Markoff and Matthew Rosenberg, "China Gains on the U.S. in the Artificial Intelligence Arms Race," The New York Times (February 3, 2017); and Lei Zhao, "Nation's next generation of missiles to be highly flexible," China Daily (August 19, 2016)

43 John Longhurst, "Car Wars: Beijing's Winning Plan" November, 2016.

44 "Quantum Leap: Who Said China Couldn't Invent?" Geo-political Standpoint (GPS) Report 85 (October 14, 2016), Tangent Link

45 "China vs. U.S. Patent Trends: How Do the Giants Stack Up?", Technology & Patent Research. Retrieved at http://www.tprinternational.com

46 Hannas, William C.; Mulvenon, James and Puglisi, Anna B. China Industrial Espionage. New York: Routledge, 2013. Chapter 3

47 Hannas, China Industrial Espionage, Chapter 3 and "The U.S. Leads the World in R&D Spending", The Capital Group Companies (May 9, 2016). Retrieved at http://www.thecapitalideas.com

48 Jackie Kraemer and Jennifer Craw, "Statistic of the Month: Engineering and Science Degree Attainment by Country", National Center on Education and the Economy (May 27, 2016). Retrieved at http://www.ncee.org

49 Erik Roth, Jeongmin Seong, Jonathan Woetzel, "Gauging the Strength of Chinese Innovation," McKinsey Quarterly (October, 2015).

mixed results leading in high-speed rail but not in aerospace, nuclear power or medical equipment. In science-based industries such as branded pharmaceuticals or satellites, China is behind the U.S. but China is investing billions of dollars to catch up. (The McKinsey analysis is provided in Appendix 7.)

Many of the critical future technologies attracting venture focus today such as artificial intelligence, augmented reality and autonomous vehicles are likely to have large consumer-based markets implying that China will apply its advantages both in efficiency-driven and customer-focused industries to these new technologies with the potential to *lead in innovation* and *be global market share leaders.* The success of DJI in the consumer drone market with 70% worldwide share is consistent with this McKinsey analysis. In artificial intelligence, the race between the U.S. and China is so close that whether the Chinese "will quickly catch the U.S...is a matter of intense discussion and disagreement in the U.S. Andrew Ng, chief scientist at Baidu, said the U.S. may be too myopic and self-confident to understand the speed of the Chinese competition."[50] And in the field of advanced industrial robotics, China is leveraging its market and investment capital to ultimately lead in the design and manufacture of robots.[51] Given there are many industries where China already leads the world in innovation and given China's massive scale and national focus on science and technology advancement, it would be foolhardy to bet against China's continued progress even in the areas where they do not lead today. A further concern is that China's long-term, national focus on innovation and expertise in advanced manufacturing might make China a more attractive destination market for new technologies--especially hardware technologies--since there is both less funding appetite in the U.S. for non-software technologies and less of an ecosystem for developing and manufacturing these technologies.

Implications for the Department of Defense (DoD)

U.S. military superiority since World War II has relied on both U.S. economic scale and technological superiority. The size of the U.S. economy allows DoD to spend $600 billion per year (while remaining only 3% of GDP in 2016) which equals the defense spending of the next eight largest nations combined. In 2016, China was the second largest spender at $215 billion, up 47% from the previous year while the U.S. spending remained flat.[52] U.S. technological preeminence enabled the series of offset strategies which included the First and Second Offsets and now DoD is currently working to maintain technology superiority in its Third Offset strategy.

China's goal to be the preeminent global economy combined with its emphasis on technology transfer and innovation constitutes a major strategic competition with the U.S. There are several areas of concern:

1. China's transformation to be the manufacturer for the world means more supply chains are owned by China, which creates risks to U.S. military technology and operations. For example, the Aviation Industry Corporation of China (AVIC) is a Chinese-state owned aerospace and defense company which has now procured key

[50] John Markoff and Matthew Rosenberg, "China Gains on the U.S. in the Artificial Intelligence Arms Race." The New York Times (February 3, 2017).

[51] Farhad Manjoo, "Make Robots Great Again," The New York Times (January 26, 2017).

[52] 2016 Fact Sheet, Stockholm International Peace Research Institute (SIPRI) and "The Military Balance", International Institute for Strategic Studies (IISS) 2016. Retrieved at http://www.en.m.wikipedia.org

components of the U.S. military aircraft supply chain.[53] Additionally, as the U.S.-based semiconductor industry focuses on high-end designs and moves older, low-end designs offshore, the Chinese semiconductor industry now controls a significant percentage of the supply of older chips used in maintaining U.S. military aircraft and equipment designed 40 years ago and still in service.

2. China has targeted several key technologies such as jet engine design which will reduce current U.S. military superiority and is actively working to acquire companies that will close this gap.
3. China's industrial espionage and cyber theft efforts continue without adequate U.S. investment in manpower and programs to thwart these efforts. This allows technology transfer at an alarming rate.[54]
4. China's investment strategy (through venture and private equity investments as well as acquisitions) includes the fundamental technologies which will likely be the sources of innovation for the next several decades: artificial intelligence, autonomous vehicles, robotics, augmented and virtual reality, gene editing, etc. As a result, China has access to U.S.-based innovation in the same areas and at the same time which could negate advantages for the U.S. Further, when the Chinese make an investment in an early stage company developing advanced technology, there is an opportunity cost to the U.S. since that company is potentially off-limits for purposes of working with DoD.
5. Beyond the threat from investments alone, China's national focus on mega projects (analogous to the U.S. space program in the 1960s to not only develop technology but create demand for technology) complements the increase in military spending as China gains experience in manufacturing and refining new technologies for practical use.
6. DoD does not currently have agreed-upon emerging technologies the U.S. must protect although there has been extensive work on export controls to protect technology products from being shipped to U.S. adversaries.

DoD began developing a list of critical technologies in 2016 in an effort known as the Joint Acquisition Protection & Exploitation Cell (JAPEC). The mission of JAPEC is to "integrate protection efforts across the Department to proactively mitigate losses and exploit opportunities to deter and disrupt adversaries which threaten U.S. military advantage." JAPEC is working to identify critical acquisition programs and technologies that require protection as well as assess vulnerabilities associated with known losses and implement advanced protection mechanisms.[55] However, there is much work left to do to consolidate the technologies across DoD requiring protection and determine which of those are the most critical. The JAPEC effort complements the government's robust system of export controls which are designed to comply with trade agreements, embargoes, sanctions and other political measures to meet U.S. national security and foreign policy objectives.

Finally, there is no technology landscape map to help DoD understand the fundamental component technologies required to protect applications or end-use technologies embedded in acquisition programs. For example, semiconductor technology is a fundamental component technology today that would be required to protect capabilities inherent in almost all acquisition programs. This is likely to be the case in the future with such fundamental technologies as artificial intelligence, robotics, autonomous vehicles, advanced materials science, etc. With agreed-upon emerging technologies to protect and a technology landscape to clarify the value-added map of technologies (from components to end-use applications), the U.S. government can be much clearer about what acquisitions to deny through a reformed CFIUS process and resource allocation to thwart industrial espionage or cyber theft.

[53] "How America's Giants Are Aiding China's Rise", Geo-political Standpoint (GPS) Report 84, October 13, 2016, Tangent Link.

[54] The IP Commission Report (2013)

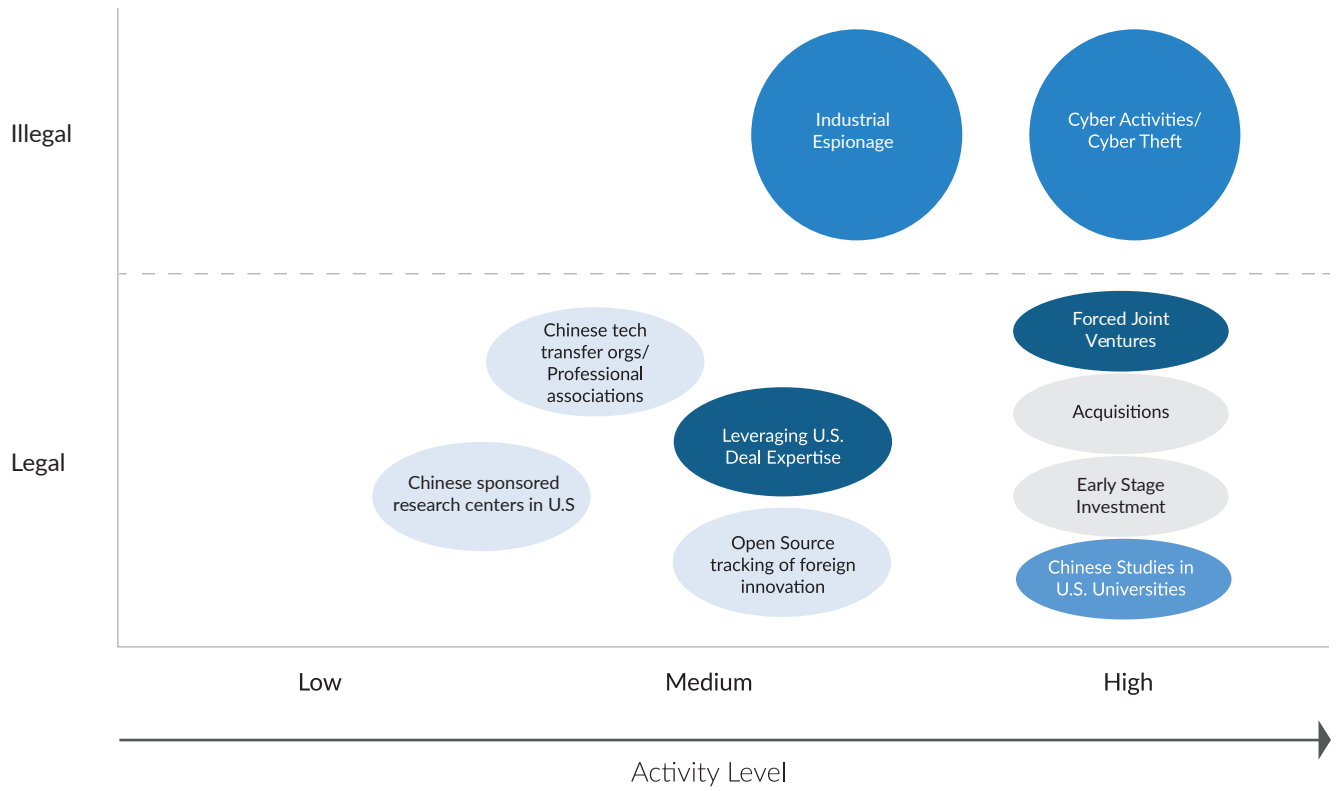
[55] Brian D. Hughes, "Protecting U.S. Military's Technical Advantage" presented at the 18th Annual NDIA Systems Engineering Conference in Springfield, VA, October 28, 2015. Retrieved at http://www.acq.osd.mil

China's Multiple Vehicles for Technology Transfer

Given the authoritarian nature of China's government, China can focus resources from a variety of different sources to enable a broad transfer of scientific knowledge and technology. Additionally, China coordinates these different sources to achieve a larger impact through a well-articulated industrial policy documented in its Five-Year and other plans. The principal vehicles discussed so far are investments in early-stage technologies as well as acquisitions. When viewed individually, some of these practices may seem commonplace and not unlike those employed by other countries. However, when viewed in combination, and with the resources China is applying, the **composite picture illustrates the intent, design and dedication of a regime focused on technology transfer at a massive scale.**

The following table compares these transfer vehicles on a relative scale of the level of activity for China in the U.S. compared to other countries. This illustrates that what differentiates China from other countries' activities in the U.S. is the scale of China's efforts. Naturally, the most troublesome of all the vehicles are the illegal ones – the outright theft of technology and intellectual property which is very cost-effective for China.

Vehicles for Chinese Technology Transfer from the U.S.



China's Activity in the U.S. Relative to Other Countries' Activities in the U.S.

The 8 principal sources and methods for technology transfer i*n addition to investments and acquisitions* are:

1. **Industrial espionage**

   For years, the Chinese have been engaged in a sophisticated industrial espionage program targeting key technologies and intellectual property to enhance commercial enterprises and support domestic champions.[56] This has recently been on the rise as Randall Coleman, Assistant Director of the FBI's Counterintelligence Division, observed in 2015 that espionage caseloads are up 53% in the past two years and that in an FBI survey of 165 companies, 95% of those companies cite China as the perpetrator. "China's intelligence services are as aggressive now as they've ever been" underscoring the pervasive nature of intellectual property and trade secret theft.[57] The FBI reports that China pays Chinese nationals to seek employment in targeted U.S. technology firms (where there is sensitive technology that China identifies it needs) where they become "insiders" and more readily exfiltrate valuable intellectual property. Fortunately, convictions of Chinese nationals and naturalized citizens for industrial espionage are also on the rise, up 10x since 1985[58].

   Despite the rise in convictions, there is no way to know how big this problem really is. The scale of the espionage (through some of the methods described below) continues to increase and it would be difficult to quantify this problem without more resources applied by both the FBI and the Defense Department's various counterintelligence agencies.

2. **Cyber theft**

   China's cyber capabilities are among the strongest in the world probably only exceeded by Russia and the U.S. although some have argued that China's cyber successes to date demonstrate more about U.S. system vulnerability than Chinese capabilities. Regardless, cyber theft is an ideal tool for China given the asymmetric vulnerability of the U.S. (given how much information is digitally accessible) and the plausible deniability given the difficulty of attribution in cyber-attacks. Several documented high profile cyber theft incidents are described in Appendix 8 and may be the tip of the iceberg in terms of the numbers of incidents and their scale. As former NSA Director General Keith Alexander famously told Congress in 2012, this represents the "greatest transfer of wealth in history". At that time, it was estimated that U.S. companies lose $250 billion per year through intellectual property theft and another $114 billion due to cybercrime, totaling $338 billion of impact each year. "That's our future disappearing in front of us," warned General Alexander.[59]

   As reported in the IP Commission Report of 2013, Verizon worked with 18 private institutions and government agencies to estimate that:

   - 96% of the world's cyber espionage originated in China;
   - $100 billion in lost sales and 2.1 million in lost jobs result from this theft;
   - $300 billion worth of intellectual property is stolen each year.[60]

[56] 2016 Report to Congress of the US-China Economic & Security Review Commission (November, 2016) and Hannas, China Industrial Espionage, Chapter 8

[57] Shanie Harris, "FBI Probes 'Hundreds' of China Spy Cases", The Daily Beast (July 23, 2015). Retrieved at http://www.thedailybeast.com

[58] Notes from briefing, "Economic and S&T Intelligence Collection" by Joseph P. O'Neill, Faculty Member, National Intelligence University, November 28, 2016.

[59] Josh Rogin, "NSA Chief: Cybercrime Constitutes the 'Greatest Transfer of Wealth in History' " Foreign Policy Magazine (July, 2012). Retrieved at http://www.foreignpolicy.com

[60] The IP Commission Report (2013)

What really distinguishes China from other nation-state actors in cyber attacks is the sheer scale of activity as China dedicates a massive amount of manpower to its global cyber activities. The FBI's former deputy director for counterintelligence reported in 2010 that the China deploys between 250,000 and 300,000 soldiers in the People's Liberation Army (3PLA) dedicated to cyber espionage. Within another part of the armed forces, 2PLA has between 30,000 and 50,000 human spies working on insider operations.[61] China's cyber activity is not solely focused on a national security agenda. In fact, much of this activity can be deployed to support China's economic goals in stealing valuable intellectual property to support China's technology transfer. Additionally, China recently passed two laws--the anti-terrorism law and the cybersecurity law--which are of concern since they could be used to gather sensitive commercial information from U.S. companies legally.[62]

3. Academia

For many years, China has sent an increasing number of students to the U.S. In 2016, there were 328,000 Chinese foreign nationals studying at U.S. colleges and universities (⅓ of all foreign students). Chinese foreign nationals represent ½ of all foreign applicants.[63] The U.S. educational system has come to rely on the financial contribution of these foreign students especially at the undergraduate level.

Statistics on U.S. STEM programs highlight the large proportion of foreign students:

- 84% of foreign students in PhD programs were studying in science and engineering (2001-2011);64
- For doctoral programs, 57% of engineering, 53% of computer science and 50% of math and statistics candidates were foreign; half of these were Chinese;[65]
- 54% of patents issued by universities include foreign student's work;[66]
- 45% of STEM undergraduates are foreign and ⅓ of these are from China.[67]

From this data, we can infer that 25% of the graduate students in STEM fields are Chinese foreign nationals. Since these graduates do not have visas to remain in the U.S., nearly all will take their knowledge and skills back to China. Academia is an opportune environment for learning about science and technology since the cultural values of U.S. educational institutions reflect an open and free exchange of ideas. As a result, Chinese science and engineering students frequently master technologies that later become critical to key military systems, amounting over time to unintentional violations of U.S. export control laws. The phenomena of graduate student

[61] Joshua Philipp, "Rash of China Spy Cases Shows a Silent National Emergency", The Epoch Times (April 25, 2016). Retrieved at http://www.theepochtimes.com

[62] **Anti-terrorism law** passed in December, 2015 which gives the Chinese government broad access to technical information and decryption codes when state security agents demand it for investigating or preventing terrorism. Telecommunication and internet service providers "shall provide technical interfaces, decryption and other technical support and assistance" when required. Chris Buckley, "China Passes Antiterrorism Law that Critics Fear May Overreach," The New York Times (January 6, 2016). Retrieved at http://www.nytimes.com.

Cybersecurity law passed in November, 2016 contains vague language aimed at preventing network intrusions that would require U.S. companies submit their technology, possibly including source code, to security reviews with Chinese officials. There are an expansive list of sectors defined as part of China's critical information infrastructure such as telecommunications, energy, transportation, information services and finance all of which would be subject to security reviews. The law does not specify what a security review will entail. Several U.S. companies are concerned about the increased costs of doing business in China as well as the need to provide company sensitive information to the Cybersecurity Administration of China to prove that their equipment, software and operations are safe. Josh Chin and Eva Dou, "China's New Cybersecurity Law Rattles Foreign Tech Firms," Wall Street Journal (November 7, 2016). Retrieved at http://www.wsj.com.

[63] Project Atlas, Institute of International Education, Fall 2015. Retrieved at http://www.iee.org.

[64] "Survey of Graduate Students and Postdoctorates in Science & Engineering", National Science Foundation, November, 2015.

[65] Drew Desilver, "Growth from Asia Drives Surge in US Foreign Students," Pew Research Center (June 18, 2015)

[66] National Science Foundation Survey, November, 2015

[67] Donisha Adams and Rachel Bernstein, Science (November 21, 2014); Retrieved at http://www.sciencemag.org

research increasingly having national security implications will inevitably increase as the distinction between military and civilian technology blurs. Further, since there are close ties between academia and U.S. government-sponsored research – including at our national laboratories – ensuring that foreign nationals are not working on sensitive research paid for by the U.S. government (including DoD) will become increasingly important.

Chinese companies are also approaching U.S. academic institutions to promote joint research and attract future talent. As an example, Huawei has partnered with UC-Berkeley to focus jointly on artificial intelligence research. Huawei made an initial commitment of $1 million in funding to cover areas such as deep learning, reinforcement learning, machine learning, natural language processing and computer vision[68] More recently, Huawei has approached MIT with an offer for a grant to build a joint research facility.

4. China's use of open sources tracking foreign innovation

China has made collecting and distributing science and technology information a national priority for decades. "By 1985, there were 412 major science & technology intelligence institutes nationwide [in China]…employing …60,000 workers…investigating, collecting, analyzing, synthesizing, repackaging, benchmarking and reverse engineering."69 In 1991, the book, Sources and Methods of Obtaining National Defense Science & Technology Intelligence, detailed a comprehensive account of China's foreign military open-source collection (known as "China's Spy Guide") collecting all types of media (including verbal information prized for its timeliness over written information) and making them available in database form. The National Internet-based Science & Technology Information Service Systems (NISS) makes 26 million holdings of foreign journals, patents and reports available to the public around the clock. Chinese exploitation of foreign open-source science and technology information is a systematic and scale operation making maximum use of diversified sources: scanning technical literature, analyzing patents, reverse engineering product samples and capturing conversations at scientific meetings. This circumvents the cost and risk of indigenous research.[70]

5. Chinese-based technology transfer organizations

At the national level, China has more than a dozen organizations that seek to access foreign technologies and the scientists who develop them (not counting the clandestine services, open-sources, and procurement offices). These organizations are led by the State Administration of Foreign Experts Affairs (SAFEA). SAFEA's success is evident in the 440,000 foreign experts working in China annually. Complementing SAFEA is the State Council's Overseas Chinese Affairs Office (OCAO) which provides overseas Chinese (whether they have lived in China or not) with the opportunity to support their ancestral country. The Ministry of Human Resources and Social Security[71] is involved heavily in foreign recruitment and foreign technology transfer including the Overseas Scholars and Experts Service Center to interact with Chinese students studying abroad. The Ministry of Science & Technology (MOST) also dedicates significant resources to acquiring foreign technology including 135 declared personnel in overseas embassies and consulates.

[68] Li Yuan, "Chinese Technology Companies, including Baidu, Invest Heavily in AI Efforts", Bloomberg News (August 24, 2016)

[69] Hannas, China Industrial Espionage, Chapter 2, p. 22.

[70] Hannas, China Industrial Espionage, Chapter 2

[71] Formerly known as the Ministry of Personnel.

The Overseas Scholars and Experts Service Center sponsors associations at many universities which serve as an organized means to transfer technology to China. Many of the national programs also have complementary provincial and municipal organizations specifically focused on the skills and talent than can benefit a local area. These organizations make available debriefing rooms, free translators, personnel to make travel arrangements, dedicated "transfer centers" and face-to-face meetings between technology experts and Chinese company representatives.

China also promotes "people to people" exchanges through a network of NGOs (e.g., the China Science and Technology Exchange Center and the China Association for the International Exchange of Personnel) that insulate overseas specialists from the potential risks of sharing technology directly with PRC government officials.[72]

6. **Chinese research centers in the U.S. to access talent and knowledge**

There are now increasing examples of Chinese firms setting up research centers to access U.S. talent and technology:

- In 2013, Baidu set up the Institute for Deep Learning in Silicon Valley to compete with Google, Apple, Facebook and others for talent in the artificial intelligence field.[73] Baidu recently hired former Microsoft executive Qi Lu as its group president and chief operating officer. Lu was the architect of Microsoft's strategy for artificial intelligence and bots.
- Another example is the Zhong Guan Cun (ZGC) Innovation Center opened in May, 2016 in Silicon Valley.
- A new type of research center is TechCode: an entrepreneurs' network "committed to breaking down geographic barriers and eliminating potential inequalities of international cooperation" according to its website. As a network of entrepreneurs, Tech Code is a system of incubators ("startups without borders") worldwide (Beijing, Shanghai, Shenzhen, Gu'an, Silicon Valley, Seoul, Tel Aviv and Berlin) that leverages an online development platform for projects focused on China's development and funded by the Chinese government.[74]
- In addition, there are several research centers promoting a sustainable environment and clean energy including the U.S.-China Clean Energy Research Center (CERC) recently expanded and promoted together by President Obama and President Xi.

7. **U.S.-based associations sponsored by the Chinese government**

There are many professional associations which bring Chinese engineers together such as the Silicon Valley Chinese Engineers (6000 members), the Hua Yuan Science & Technology Association (HYSTA) and the Chinese Association for Science and Technology (CAST). The largest concentration of China's science and technology advocacy groups in the U.S. are in California and Silicon Valley in particular. " 'The Valley' is ground [zero] for… legal, illegal and quasi-legal practices that fall just below the thresholds set by U.S. law."[75] With these professional associations being one of the primary targets, the Chinese have implemented a variety of programs such as the "Thousand Talents Program" to bring this technology home by recruiting Chinese engineers with offers of career

[72] Hannas, China Industrial Espionage, Chapter 4

[73] Li Yuan, "China Races to Tap Artificial Intelligence", Wall Street Journal (August 24, 2016)

[74] "Startups Nation" from the Tech Code website, http://www.techcode.com

[75] Hannas, China Industrial Espionage, Chapter 5, p. 122

advancement, increased compensation, the opportunity do basic research or to lead their own development labs in China. China set a goal of bringing back 500,000 Chinese overseas students and scholars from abroad by 2015.[76] Another example is "Spring Light" which pays overseas Chinese scientists and engineers to return home for short periods of lucrative service that may include teaching, academic exchanges, or working in government-sponsored labs. In addition, "Spring Light" includes a global database of Chinese scholars to match specific technology needs to pools of overseas talent.[77]

The Chinese diplomatic missions to the U.S. directly support technology transfer as embassy or consulate officials facilitate a wide variety of venues and forums supported by U.S. investors and local governments to promote Chinese investment. Seven examples of these are (descriptions of these forums are in Appendix 9):

- Silicon Valley Innovation and Entrepreneurship Forum (SVIEF)
- DEMO China
- Silicon Valley-China Future Forum
- China Silicon Valley
- The Global Chamber San Francisco (GCSF)
- U.S.-China VC Summit & Startup Expo
- Chinese American Semiconductor Professionals Association (CASPA)

The messaging for these associations and programs is often controlled by the "United Front" which is a propaganda arm for the Chinese government to promote a positive image of China and Chinese culture around the world.[78]

8. **Leveraging technical expertise of U.S. private equity, venture firms, investment banks and law firms**
As China has invested more in the U.S., its investment entities have enhanced their deal expertise by working with U.S. investment banks or law firms who benefit from increased business. As China works with U.S. private equity and venture firms to invest in deals, these firms benefit through the increased value of equity stakes in these investments. Many U.S. law firms have built a practice in advising Chinese companies on how to structure deals to increase the likelihood of CFIUS approval for transactions. Consulting organizations have also built a practice in structuring mitigation agreements that will be more likely to gain CFIUS approval. As China's investments have ramped up dramatically in the past three years, the level of deal expertise has increased considerably.

[76] Xu Liyan and Qiu Jing, "Beyond Factory Floor: China's Plan to Nurture Talent," Yale Global Online (September 10, 2012). Retrieved at http://yaleglobal.yale.edu/content/beyond-factory-floor-chinas-plan-nurture-talent

[77] Hannas, China Industrial Espionage, Chapter 5.

[78] The Confucius Institutes, launched in 2004, are a good example which offer Chinese language and cultural instruction often in partnership with local universities. However, their purpose is also to portray Chinese history and policy in the best possible light so that China can be seen as a "pacifistic, happy nation. In the past decade, these institutes have been welcomed on some 350 college campuses across the world including Stanford, Columbia and Penn." as quoted in Pillsbury's The Hundred-Year Marathon. Given a history of trying to influence the curriculum of Chinese history and Chinese studies at colleges, there are now a number of colleges which are disbanding these institutes.

How are these multiple vehicles used together for coordinated impact?

Because the Chinese Communist Party is much more involved in planning economic activity and supporting companies (not only through state-owned-enterprises but also in favoring national champions it supports globally like Huawei), there is a great deal more coordination of investment along with other vehicles of technology transfer to accomplish the larger economic goals specified in China's documented plans. The scale of the Chinese economy is so large that not everything is coordinated centrally; however, the importance and degree of political control by the Communist Party ensures that investments support national goals and are not purely guided by commercial interest. The goals of many of the government-funded Chinese venture capital firms are focused on experience with advanced technologies and recruiting talent – not simply making money.

There are not enough examples to definitively say there is a standard playbook of all the vehicles used in combination. However, there are a few examples where several of these technology transfer vehicles are used together. Documented examples show targeted cyber-attacks to understand the scope of technology and intellectual property of value and where that resides within a company followed by cyber theft or industrial espionage to steal that technology.[79] In another example, Chinese cyber attackers manipulated company sales figures to weaken that company's view of itself and make it more likely to accept a purchase offer from a Chinese company. In a variation on this theme, a Chinese customer placed large orders with a public company and then cancelled them to weaken a company's results as a market surprise. Finally, there is the example of Silicon Valley startup, Quixey, who relied on a large investor, Alibaba, as one of its most important customers promising access to the Chinese market. However, Alibaba refused to pay Quixey for a custom contract to provide specialized technology to search within apps in Alibaba's operating system. Alibaba subsequently took advantage of Quixey's cash squeeze to negotiate favorable financing terms which put Alibaba in a better position to later make an offer for the technology or the company.[80] Thus, through a combination of technology transfer vehicles, China can achieve more than with a single vehicle.

Before the U.S.-China Economic and Security Review Commission, a former forensic auditor and counterintelligence analyst testified that China is executing a series of campaigns targeting specific industries he studied including telecommunications and network equipment (to benefit global champions Huawei and ZTE), information security, semiconductors, media and entertainment and financial technology. He outlined a process that involves many of the vehicles described here as key technologies are targeted, studied, stolen and applied within Chinese companies. He characterized these as cyber-economic campaigns which "are persistent, intense, patiently executed and include the simultaneous execution of such a large and diverse set of legal and illegal methods, individuals and organizations, there's little chance the targeted U.S. competitors can effectively defend or compete in the future without significant support of the U.S. government." [81]

[79] "APT1: Exposing One of China's Cyber Espionage Units", Mandiant Report, 2013. Retrieved at http://www.fireeye.com/content/dam/fireeye-www.services/pdfs

[80] Elizabeth Dwoskin, "China Is Flooding Silicon Valley with Cash," Washington Post (August 6, 2016).

[81] Jeffrey Z. Johnson, President & CEO of SquirrelWerkz, in testimony before the US-China Economic and Security Review Commission, January 26, 2017.

U.S. Government Tools to Thwart Technology Transfer

1. **The Committee on Foreign Investment in the U.S. (CFIUS) is one of the only tools in place today to govern foreign investments that could be used to transfer sensitive technology to adversaries, but it was not designed for this purpose and is only partially effective.**[82] CFIUS was established by statute in the Foreign Investment and National Security Act of 2007 (FINSA) which formally gave an interagency working group the power to review national security implications of foreign investments in U.S. companies or operations. The Treasury Department is the lead agency among 14 participating agencies. The nine voting member agencies are Treasury, State, Commerce, the United States Trade Representative, Office of Science & Technology Policy, Defense, Homeland Security, Justice and Energy. While transaction reporting is voluntary, CFIUS can and does monitor transactions beyond those that are voluntarily submitted and can initiate a review of any of these. CFIUS is required to provide clearance for reviewed transactions on a short timeline: within 75 days unless a Presidential review is required and, in that case, there are 90 days for a review and a Presidential recommendation.

   As those involved in the CFIUS process readily acknowledge, CFIUS is a blunt tool not designed for the purpose of slowing technology transfer. CFIUS only reviews some of the relevant transactions because transactions that do not result in a foreign controlling interest are beyond its jurisdiction. There are many transaction types such as joint ventures, minority investments and purchased assets from bankruptcies that are effective for transferring technology but do not result in foreign control of a U.S. entity and are, therefore, outside of CFIUS' jurisdiction In 2017, Senators Cornyn (R-TX) and Feinstein (D-CA) introduced the Foreign Investment Risk Review Modernization Act (FIRRMA) which expands CFIUS' jurisdiction to cover the key transaction types beyond acquisition which might result in technology transfer. This legislation has broad support within the Administration including public statements by the White House, Secretaries of Defense, Treasury, Commerce and the Attorney General.

   The workload for CFIUS is increasing rapidly. CFIUS reviews about 150 transactions per year but this is rising. At the same time, the number of transactions which have national security implications is also rising as Chinese purchases of U.S.-based companies or assets now represent the largest number of CFIUS reviews. Congress has not provided dedicated funding for CFIUS reviews so this critical process must be handled within existing agency budgets. The proposed FIRRMA legislation recognizes the need for increased resources to handle a growing CFIUS caseload. A review of strengths and weaknesses of the current CFIUS process are included as Appendix 10.

[82] CFIUS was established by executive order in 1975 during the OPEC oil embargo of the 1970s to prevent oil-rich nations with greatly expanding wealth from gaining too much control of U.S. assets.

2. **Export controls** are designed to prevent sensitive technologies or products from being shipped to adversaries.[83] In practice, there are several problems that may result from using export controls to thwart technology transfer to an adversary. First, export controls are often backward-looking in terms of specifying the technologies that are critical since most controls focus on products rather than broad technologies. Second, there is diffused responsibility for export controls since some are controlled by the State Department and some by the Commerce Department with DoD in an advisory role.[84] Third, with the technologies that are the focus of venture investing (far in advance of any specific products produced or military weapons), export controls have not been traditionally effective. Failure in effectiveness has largely been a function of not having the foresight to place these technologies on an export control list nor the political will to do so. In other words, the authority is in place for effective export controls if there is agreement among DoD, State and Commerce about what technologies to protect. However, since complying with export controls is a company's responsibility, there is a question of whether early-stage technology companies understand the controls or have resources within a trade compliance function to handle this complexity.

   While the restricted export lists (EAR and CCL76) can accommodate the regulation of software-based technologies such as artificial intelligence, controlling a broad technology will be highly controversial within the venture and technology community where the largest markets are for benign, commercial purposes. In fact, there is great pressure to specify technologies as narrowly as possible when writing export controls to facilitate more U.S. exports especially if the technologies are available outside the U.S. As the venture investment data indicates, the regulations do not prevent (or even deter) foreign investment in seed or early-stage companies. Additionally, it is not the purview of the export control enforcement authorities to proactively seek out companies developing new technologies or to investigate the relationship between investors and employees of a startup. Lastly, export controls will be much more effective if there is an international effort to protect the technology; otherwise, there may be an unintended consequence of the technology developing faster outside the U.S. aided by foreign investment through an allied country. If and when a dual-use technology is deemed worthy of control, the U.S. government can impose unilateral controls while it undertakes an effort to have the technology controlled internationally through the multilateral export control regimes but this process can take up to three years and may not be successful.

3. **VISAs** for Chinese foreign national students studying in the U.S. are controlled by the State Department and not scrutinized for fields of study with the protection of critical technologies in mind.

[83] The current U.S. export control system is based on the requirements of the Export Administration Act, the International Economic Powers Enhancement Act (IEEPA), the Arms Export Control Act (AECA) and the resulting implementing regulations (most notably, Export Administration Regulations (EAR) and International Traffic in Arms Regulations (ITAR)). The EAR and ITAR each have a control list: the Commerce Control List (CCL) and the U.S. Munitions List (USML). Several other Federal Agencies have niche export control regulations such as the Department of Energy, the Food and Drug Administration and the National Nuclear Security Administration, among others. The CCL lists certain dual-use, fully commercial, and less sensitive military items while items that are considered defense articles and services are included in the USML. USML is a list of articles and/or services that are specifically designed, developed, configured, adapted or modified for a military application and do not have a predominant civil application or civil performance equivalent; have significant military or intelligence applicability; and are determined or may be determined as a defense article or defense service. Taking a closer look at the dual-use paradigm, the CCL enumerates dual-use, commercial, and less sensitive military goods, software, and technology in categories ranging from materials processing, electronics, sensors and lasers, to navigation and avionics. Each item has an Export Control Classification Number ("ECCN") that specifies characteristics and capabilities of the items controlled in each ECCN. The definition of an export is intentionally broad and includes the provision of technical information to a foreign national anywhere in the world.

[84] Previous attempts at consolidating the organizational responsibility for export controls to a single government department focused on controlling a single list have not been implemented.

Appendix 8: Largest Chinese Cyber Attacks

- **Breach of more than two dozen major weapons system designs** in February, 2012 from the military and defense contractors including those for the advanced Patriot missile system (PAC-3), an Army system for shooting down ballistic missiles (Terminal High Altitude Area Defense, THAAD) and the Navy's Aegis ballistic-missile defense system, the F-35 Joint Strike Fighter, the F/A-18 fighter jet, the V-22 Osprey, the Black Hawk helicopter and the Navy's new Littoral Combat Ship[99]

- **"Titan Rain"** a series of coordinated attacks for multiple years since at least 2003 which compromised hundreds of government computers stealing sensitive information[100] " In 2004, an analyst named Shawn Carpenter at Sandia National Laboratories traced the origins of a massive cyber espionage ring back to a team of government sponsored researchers in Guangdong Province in China. The hackers, code named by the FBI "Titan Rain," stole massive amounts of information from military labs, NASA, the World Bank, and others."[101]

- **PLA Unit 61398** (a cyberforce within the Chinese military) which penetrated the networks of >141 blue chip companies across 20 strategically targeted industries identified in China's 12th Five Year Plan for 2011-2015 such as aerospace, satellite and telecommunications and IT. Among other areas of theft, source code was stolen from some of the most prominent U.S. technology companies such as Google, Adobe and others; Google announced this in January, 2010. This resulted in the U.S. indictment of 5 members of this organization. According to Mandiant, PLA Unit 61398 is just one of more than 20 cyber attack groups within China.[102]

- **"Hidden Lynx"** which according to Symantec has a long history of attacking the defense industrial sector of Western countries with some of the most sophisticated techniques has successfully attacked the tech sector, financial services, defense contractors and government agencies since at least 2009[103]

- "DHS says that between December 2011 and June 2012, cyber criminals targeted **23 gas pipeline companies** and stole information that could be used **for sabotage purposes**. Forensic data suggests the probes originated in China."[104]

- "Canadian researchers say in March, 2105 that Chinese hackers attacked U.S. hosting site **GitHub**. GitHub said the attack involved "a wide combination of attack vectors" and used new techniques to involve unsuspecting web users in the flood of traffic to the site. According to the researchers, the attack targeted pages for two GitHub users—Great Fire and the *New York Times'* Chinese mirror site—both of which circumvent China's firewall."[105]

[99] Ellen Nakashima, "Confidential Report Lists U.S. Weapons System Designs Compromised by Chinese Cyberspies", Washington Post (May 27, 2013). Retrieved at http://www.washingtonpost.com

[100] Nathan Thornburgh, "Inside the Chinese Hack Attack", Time (August 25, 2005). Retrieved at http://www.content.time.com

[101] Josh Rogin, "The Top 10 Chinese Cyber Attacks (that We Know of)," Foreign Policy (January 22, 2010) Retrieved at http://www.http://foreignpolicy.com/2010/01/22/the-top-10-chinese-cyber-attacks-that-we-know-of/

[102] "APT1: Exposing One of China's Cyber Espionage Units", Mandiant Report, 2013.

[103] "Hidden Lynx--Professional Hackers for Hire", Symantec Official Blog (September 17, 2013). Retrieved at http://www.symantec.com

[104] Robert Knake, "Five Chinese Cyber Attacks that Might Be Even Worse than the OPM Hack," Defense One (June 15, 2015). Retrieved at http://www.defenseone.com.

[105] Knake, "Five Chinese Cyber Attacks that Might Be Even Worse than the OPM Hack"

- **"The Commerce Department's Bureau of Industry and Security** had to throw away all of its computers in October 2006, paralyzing the bureau for more than a month due to targeted attacks originating from China. BIS is where export licenses for technology items to countries like China are issued."[106]

- **Breach of the U.S. Office of Personnel Management (OPM)** in 2014 where the personnel files of 4.2 million former and current government employee as well as the security clearance background information for 21.5 million individuals was stolen. Former NSA Director Michael Hayden said that this would compromise our national security for an entire generation.[107]

[106] Rogin, "The Top 10 Chinese Cyber Attacks (that We Know of)

[107] "The OPM Breach: How the Government Jeopardized our National Security for More than a Generation," Committee on Oversight & Government Reform, U.S. House of Representatives, 114th Congress (September 7, 2016).

Appendix 9: U.S. Events with Chinese Sponsorship

1. **Silicon Valley Innovation and Entrepreneurship Forum (SVIEF),** according to its website "is an international conference designed to foster innovation and promote business partnerships connecting U.S. and Asia-Pacific region." SVIEF has expanded to hold two conferences per year, the main conference held in the fall of 2016 and Silicon Valley Smart Future Summit held in winter and focused on interconnected devices. Both events are held at the Santa Clara Convention Center in Silicon Valley. A U.S. Congresswoman (Judy Chu) is the honorary Chairwoman of SVIEF and a keynote speaker at the principal fall conference was former U.S. Secretary of Energy Steven Chu. This gathering of startup CEOs, venture capitalists, Chinese companies and Chinese venture capitalists makes this an ideal location to collect information on the state of U.S. technology. Chinese officials attend who are assigned to collect intelligence.

2. **DEMO China,** an annual event held in Santa Clara, California (the heart of Silicon Valley) showcasing promising startups to Chinese investors. The event includes a keynote by the Chinese Consulate General, and has panels throughout the day covering topics such as navigating obstacles to investment in the U.S. and China; tips on how to evaluate startups; advantages of technology accelerators; and discussion of other investment trends.

3. **Silicon Valley-China Future Forum** (August, 2016) to link Silicon Valley with Chinese capital specifically in the fields of augmented reality, virtual reality and artificial intelligence.

4. **China Silicon Valley** is working with Silicon Valley city governments to drive increased investment and job growth by facilitating talent, technology and business exchange and investment between cities and businesses in China and their Silicon Valley counterparts. The intent is to help provide a one-stop service for government relations, legal, tax, consulting, networking and talent acquisition to facilitate Chinese government, businesses and individuals to invest, establish a factory, R&D center or other business activities in Silicon Valley. China Silicon Valley has an extensive network of business partners from diversified industries in Silicon Valley to carry out these activities.

5. **The Global Chamber San Francisco (GCSF)** hosts a seminar for entrepreneurs, investors and service providers with an interest in U.S.-China markets on strategies and best practices to enter and capitalize on business opportunities in U.S. & China.

6. **U.S.-China VC Summit & Startup Expo** (October, 2016) hosts a conference in Boston for investors and entrepreneurs who want to collaborate on opportunities between the U.S. and China.

7. **Chinese American Semiconductor Professional Association (CASPA)** holds many dozens of events per year in Silicon Valley and China. For 2017, the published schedule includes 4 conferences, 4 tradeshows, 4 workshops, 3 career development events, 3 international trips to China, hosted delegations from China and 6 members networking events. These events are all gathering Chinese and American semiconductor talent with the purpose of recruiting American talent.

Appendix 10: Strengths and Weaknesses of CFIUS Process Today

Strengths

- An understood process defined by FINSA statute (2007)
- No clear view on what constitutes a controlling interest that triggers an assessment by CFIUS which allows CFIUS to review more transactions than if a quantitative metric were always applied such as a 51% equity stake
- Many problematic potential acquisitions by Chinese companies have been stopped

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Weaknesses

- CFIUS reporting is voluntary--transactions do not have to be reported
- There are many types of technology transfer not currently covered by CFIUS
  - Joint ventures where the U.S. company contributes IP/technology rather than an entire business
  - Technology licenses
  - Private company transactions that are "below the radar"
  - Minority investments that do not rise to the level of a "controlling interest"
  - Reverse mergers
  - Greenfield investments
  - Assets purchased from bankruptcies
- There's an inherent bias to develop mitigation agreements[108] to allow transactions to proceed but mitigation agreements are difficult to construct and enforce. Mitigation agreements lock companies into uncompetitive cost structures; these are too often designed under time pressure resulting in one-of-a-kind agreements or agreements which are far too comprehensive. There are no government resources assigned to monitor these agreements which undoubtedly means they are unenforced. The likelihood of a costly mitigation agreement also reduces the incentive for friendly foreign companies to acquire U.S. companies.
- There is no formal risk-scoring (by country and by sector) to create a transparent, scalable process to manage large numbers of transactions; expecting consensus among the 14 CFIUS agencies is unrealistic

[108] Mitigation agreements incorporate conditions that satisfy the national security risks such as governance measures, security requirements, separating a sensitive operation from the transaction or monitoring/verification mechanisms. From 2009-2011, roughly 8% of all cases reviewed resulted in mitigation agreements. "Understanding the CFIUS Process," Organization for International Investment.

- Security agencies (Department of Defense, Department of Justice, Department of Homeland Security) are not tasked to collaborate in articulating the national security risks of foreign investment in sensitive technology and facilities
- No comprehensive view of the technology landscape exists, and since CFIUS is only designed to review a single deal at a time, there is increased risk of damaging a complete sector critical to national security such as is happening in semiconductors[109]
- Allied governments' view of threats are not incorporated
- Required certification to Congress of "no unmitigated security threats" is unrealistic; with an increasing number of complex transactions there will be unmitigated security threats that evolve
- 90-day timeline defined by statute does not allow for dealing with more complex transactions
- CFIUS transactions are expanding to >150/year and there is no dedicated funding by Congress to support this effort; resources are stretched in every participating agency

[109] "Ensuring Long-Term U.S. Leadership in Semiconductors," President's Council of Advisors on Science and Technology, January 2017

CCDCOE
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Huawei, 5G and China as a Security Threat

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CCDCOE

The NATO Cooperative Cyber Defence Centre of Excellence (CCDCOE) is a NATO-accredited cyber defence hub focusing on research, training and exercises. It represents a community of 21 nations providing a 360-degree look at cyber defence, with expertise in the areas of technology, strategy, operations and law. The heart of the Centre is a diverse group of international experts from military, government, academia and industry backgrounds.

The CCDCOE is home to the *Tallinn Manual 2.0*, the most comprehensive guide on how international law applies to cyber operations. The Centre organises the world's largest and most complex international live-fire cyber defence exercise, Locked Shields. Every spring the Centre hosts the International Conference on Cyber Conflict (CyCon), a unique event joining key experts and decision-makers of the global cyber defence community. Since January 2018, CCDCOE has been responsible for identifying and coordinating education and training solutions in the field of cyber defence operations for all NATO bodies across the Alliance.

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Executive summary

This paper, *Huawei, 5G, and China as a Security Threat,* examines the cybersecurity debate around Huawei as the potential supplier of 5G technology for next generation wireless networks. Looking at cybersecurity considerations and beyond, the paper discusses factors that have brought Huawei to its current contested status: the Chinese national policy of technological superiority, the legal (both domestic and international) context of its operations, and the political environment, including its track record of cyber activity. Informed by this context, the paper makes a comparative analysis of existing national positions regarding 5G solutions originating from China. The paper does not, however, venture into discussions over other potential interests such as trade or industry. Granted, these areas might also influence the choice of 5G provider but they lie outside the NATO CCDCOE remit and therefore the scope of this paper.

The authors argue that the issue of Huawei 5G deployment must be assessed in the broader geopolitical context. First, China approaches it as such. Its legal and political environment, along with its known practice of 'public-private partnership' in cyber espionage, remain a concern. Secondly, the role of fundamental digital infrastructure for modern societies is not a mere technocratic platform issue. Neither can the 5G discussion be isolated to the civilian or the defence domain. It has critical implications for both simultaneously, and choices must therefore be informed by both perspectives.

The growth of Chinese technology companies have made them a global market power. This is largely a product of focused government industrial policy and funding instruments. Chinese companies are not only subsidised by the Chinese government but also legally compelled to work with its intelligence services. Whether the risk of such collaboration is real or perceived, the fear remains that adopting 5G technology from Huawei would introduce a reliance on equipment which can be controlled by the Chinese intelligence services and the military in both peacetime and crisis. In addition, infrastructure decisions are not easily reversed: once a 5G provider has been chosen it will be very costly and time consuming to roll back that decision – and, from a security perspective potentially, too late.

The authors maintain that 5G rollout needs to be recognised as a strategic rather than merely a technological choice. It is rational to demand the highest possible security assurance from 5G technology used for critical communication. Possible loss or interruption of availability, integrity or confidentiality in such systems could have a significant adverse effect on society. Eliminating the risk of control over such systems by an adversary state may include the elimination of Chinese products from the supply chain. Solid accountability, transparency, and risk mitigation mechanisms are the essential minimum in order to benefit from the socioeconomic benefit of 5G without jeopardising national security.

Viable alternatives to Huawei technology are necessary to preserve flexibility of choice and to prevent being trapped with one supplier without a way out. To this end, R&D investment and strengthening regional industry are not purely issues of global competitiveness, but should also be considered – and more importantly, pursued – for their security dimension.

The Chinese general, military strategist, writer and philosopher Sun Tzu is often quoted for stating that 'the supreme art of war is to subdue the enemy without fighting'. Even though the reference was made with regard to breaking the opponents' will to fight, it rings equally true in this context. The decisions we make today will have an impact on our tomorrow.

Introduction

The escalation of the national security debate around Huawei has caught a number of 5G enthusiasts off guard. The United States, Australia, New Zealand, Japan and the Czech Republic, among others, have imposed restrictions on the use of Huawei 5G solutions over national security concerns; much of Europe is pondering whether to follow suit. Summed up, the nations' worries are rooted in the ties between Chinese communications technology companies and its intelligence services, reinforced by China's political and legal environment requiring cooperation with intelligence agencies. Perceived or real, fears persist that adopting Huawei 5G technology will introduce a critical reliance on equipment that can potentially be controlled by the Chinese intelligence services and the military in peacetime and in crisis.

Chinese technology companies have become significant players in the global market because of their embrace of innovation and the notably improved quality and affordable cost of their products. However, the legal and political influence of the Chinese state over its technology industry and ties between the government and the companies leave the Western countries uneasy. China has made no secret of its adversarial perception of the West, and has been actively seeking a stronger global influence. It has for long also sustained a remarkable track record of cyber espionage.

On the other side of the coin is the nature and the potential of 5G. More than simply a new cool technology that offers improved quality and innovative possibilities, 5G networks have the potential of becoming the digital nervous system of the contemporary societies. However, no technology can be assured to be fully secure, and the risk of unexpected vulnerabilities that can be exploited by a malicious actor will have to be factored into the calculation. China's known capability and inclination to take advantage of this feature make the issue of 5G deployment more than a mere technocratic matter – it needs to be considered comprehensively, recognising that the choice of technology has both economic and national security implications.

Neither is it a discussion where the civilian and the defence perspective can be separated. The national security and defence organisations are to a significant extent users of civilian infrastructure, and have a mandate to protect it during crisis. As more digital or 'smart' technologies find their way into military operations, the establishment and maintenance of a parallel digital infrastructure for defence will be even less realistic. As 5G will have critical civilian and defence implications, decisions must be informed by both perspectives.

The authors hold that it is rational to demand high security assurance from 5G technology used for mission-critical communication and, to the farthest degree possible, to eliminate the risk of control over network resources by foreign services. However, the fundamental question is one of trust: states need assurances that their critical systems and data – and those of their partners and allies – are safe from foreign meddling, both now and in the foreseeable future, thus cost and speed cannot be the sole or decisive factors in the rollout of innovative infrastructure. Viewing 5G security as merely a matter of network security, and failing to consider a potential national security dimension may ultimately prove more expensive and harm the long-term wellbeing of the society.

This paper addresses these considerations from both a cybersecurity point of view and that of a broader national security context. It will consider the strategic and legal issues raised by potential reliance on Chinese technology in the rollout of 5G, the emerging national responses, and offer recommendations for a common approach.

Finally, the paper does not aspire to identify – much less delineate – all areas of opportunity, categories of risk, and potential remedies to contain the risks posed by the adoption of Chinese technology. Modern liberal democracies are increasingly dependent on digital infrastructure and technology for operating their societies and sustaining their way of life. The need to consider the risks arising from linking such dependencies to technology potentially controlled by non-democratic or adversarial states becomes more pressing.

More broadly, Western democracies need a better understanding of the way China integrates its technological and geopolitical ambitions in accessing Western markets. The implications of this endeavour for liberal democracies go far beyond the issue of 5G.

WHAT IS 5G AND WHAT ARE THE SECURITY IMPLICATIONS?

5G is the next generation of wireless mobile technology, providing greater data speeds, lower latency (better responsiveness), and the possibility to simultaneously connect to more devices.[1] These qualities will expedite the advance of robotics and automation, virtual and augmented reality, and artificial intelligence and machine learning[2] – transforming the scene of smart devices and applications, and the entire operation of digital societies, very likely in ways unimagined today.

A higher use of virtualisation in 5G will, at the same time, arguably lead to further evolution of security threats and a broader, multifaceted attack surface. Linking increasing billions of intercommunicating devices, 5G will entail an exponential rise in the number of both potential targets and means for espionage, not to mention its potential for emerging signals intelligence platforms to enable massive collecting and parsing of telemetry data. In grim but not unrealistic prognoses, these developments will lead to the emergence of a potential '"surveillance web" over much of the planet'.[3]

5G technology reduces the separation between edge and core communications networks, meaning that it is no longer possible to limit vendor impact to the edge: a potential threat anywhere in the network will be a threat to the whole network.[4]

Any hope of the possibility to roll back implementation of a particular vendor's technology might remain an illusion: it would mean having to change architecture, which is complicated, time-consuming, and therefore costly.[5]

[1] Christian de Looper, 'What is 5G? Here's everything you need to know'. Digital Trends, 25 January 2019. https://www.digitaltrends.com/mobile/what-is-5g/; Sascha Segan, 'What Is 5G?' PC Magazine, 28 January 2019. https://www.pcmag.com/article/345387/what-is-5g; David Goldman, 'What is 5G?' 25 February 2019. https://edition.cnn.com/2019/02/25/tech/what-is-5g/index.html

[2] Fredric Paul, 'Six IoT predictions for 2019'. Network World, 2 January 2019. https://www.networkworld.com/article/3330738/six-iot-predictions-for-2019.html

[3] Heather Woods, 'Do I want an always-on digital assistant listening in all the time?' The Conversation, 16 July 2018. https://theconversation.com/do-i-want-an-always-on-digital-assistant-listening-in-all-the-time-92571

[4] Corinne Reichert, 'Huawei denies foreign network hack reports'. ZDNet, 5 November 2018. https://www.zdnet.com/article/huawei-denies-foreign-network-hack-reports/

[5] Daphne Zhang, 'U.S. Push on Huawei Ripples Through Markets'. Wall Street Journal, 23 November 2018. https://www.wsj.com/articles/u-s-push-on-huawei-ripples-through-markets-1542981918

1. Why Huawei?

Huawei technological and price advantage

The rise of Huawei is exemplary of the Chinese national policy of technological superiority: the past few years have seen the company grow into the largest telecoms equipment manufacturer in the world. In 2018, it passed Apple as the second largest producer of smartphones after Samsung.[6] It is currently the only company that can produce 'at scale and cost' all the elements of a 5G network, with its closest competitors Nokia and Ericsson not yet able to offer a viable alternative.[7] Huawei's ambition is to dominate the market for 5G wireless communications,[8] and it has established cooperation with telecommunications companies in a number of countries in Europe and worldwide.

Huawei and other Chinese telecommunications companies have obtained a visible and active role in the development of global 5G standards and have acquired a significant proportion of core patents for 5G. China currently holds an estimated 10% of the '5G-essential' industrial property rights in radio access solutions; of these, Huawei has the most patents, followed by ZTE. Chinese influence in the global standards organisations (ITU, 3G Partnership Project) has also grown in terms of the key positions held by Chinese representatives.[9]

The growth of the global market power of Chinese technology companies is largely a product of focused government industrial policy and accompanying funding instruments.[10] Like its technological advantage, Huawei's affordable pricing is more likely an outcome of China's domestic policy (further discussed in Chapter 2 of this paper) than its fundamental technological superiority over competitors.[11] Preferential treatment of domestic providers means that the latter 'control 75 percent of the [Chinese] market, giving them unbeatable economies of scale'.[12]

Huawei past activities and product security

To date, there has been no evidence, at least publicly, of significant vulnerabilities in Huawei technology. However, the company has repeatedly been blamed for industrial espionage (the 2003 Cisco case[13]

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[6] Can Huawei survive an onslaught of bans and restrictions abroad? The Guardian, 13 December 2018. https://www.economist.com/business/2018/12/15/can-huawei-survive-an-onslaught-of-bans-and-restrictions-abroad; Global Smartphone Market Share: By Quarter. Counterpoint, 16 November 2018. https://www.counterpointresearch.com/global-smartphone-share/

[7] 'Huawei arrest: This is what the start of a tech Cold War looks like'. CNN, 9 December 2018. https://m.cnn.com/en/article/h_9345b23ca7053f08332030a63d7e3329.

[8] Frank J. Cilluffo, Sharon L. Cardash, 'What's wrong with Huawei, and why are countries banning the Chinese telecommunications firm?' The Conversation, 19 December 2018. https://theconversation.com/whats-wrong-with-huawei-and-why-are-countries-banning-the-chinese-telecommunications-firm-109036

[9] Parv Sharma, '5G Ecosystem: Huawei's Growing Role in 5G Technology Standardization'. Counterpoint Research, 20 August 2018. https://www.counterpointresearch.com/huaweis-role-5g-standardization/

[10] John Lee, ' The rise of China's tech sector: The making of an internet empire'. The Interpreter, Lowy Institute, https://www.lowyinstitute.org/the-interpreter/rise-china-s-tech-sector-making-internet-empire; Adam Segal, 'When China Rules the Web: Technology in Service of the State''. Foreign Affairs, September/October 2018.

[11] See, e.g., China - Market Challenges. Export.gov, 4 May 2018. https://www.export.gov/article?id=China-Market-Challenges

[12] Thorsten Benner, 'Germany Is Soft on Chinese Spying'. Foreign Policy, 9 December 2018. https://foreignpolicy.com/2018/12/09/germany-is-soft-on-chinese-spying/. See also Erick Fang, 'Barriers To Entry Into The Chinese Mobile Market'. Forbes, 21 December 2018. https://www.forbes.com/sites/forbestechcouncil/2018/12/21/barriers-to-entry-into-the-chinese-mobile-market/#6df45bff673b

[13] The Huawei Way. Newsweek, 15 January 2006. https://www.newsweek.com/huawei-way-108201

and the 2014 T-Mobile lawsuit[14]) and of continued violation of international economic sanctions against Iran and North Korea,[15] which has particular significance because Huawei products use components produced in the United States.[16] The company is currently at the centre of fraud and intellectual property theft investigations in the US.[17]

Huawei staff members have recently been linked to espionage allegations, with Australian intelligence reports in 2018 indicating that Huawei personnel were used 'to get access codes to infiltrate a foreign network' in an operation that took place within the last two years.[18] Canada and Poland have in recent months detained two Huawei officials, one related to the US investigations alluded to above (involving Huawei's chief financial officer, daughter of the founder and president of Huawei) and the other on grounds of espionage. Huawei has denied that the latter case had any relation to the company's business.[19] The Czech national cybersecurity authority (NCISA) relied on accessible findings of the cybersecurity community regarding Huawei and ZTE activities 'in the Czech Republic and around the world' in issuing a warning for the use of the companies' technologies.[20]

Huawei, for its part, rejects the accusations. It insists that its shares are owned by employees, it is not beholden to any government, and it has never used its equipment to spy on or sabotage other countries.[21] It also 'categorically denies that it has ever provided, or been asked to provide, customer information for any government or organisation'.[22] Huawei has set up Security Assessment Centres in the United Kingdom, Germany, and recently in Brussels to provide partners with the opportunity to assess their products, including the source code,[23] and generally refers to itself as the 'most audited technology company in the world'.[24]

IT IS NOT JUST ABOUT HUAWEI

While Huawei stands in the limelight due to its advanced 5G capacity, the issue is not just about Huawei: many states are likewise concerned about other Chinese communications and video surveillance technology manufacturers – primarily ZTE, but also Hytera Communications Corporation, Hangzhou Hikvision, and Dahua Technology, all of whose technology has been banned from use in government networks under US law.[25]

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[14] Hiroko Tabuchi, 'T-Mobile Accuses Huawei of Theft from Laboratory'. The New York Times, 5 September 2014. https://www.nytimes.com/2014/09/06/business/t-mobile-accuses-huawei-of-theft-from-laboratory.html; Andrew Orlowski, 'Huawei spied, US federal jury finds'. The Register, 19 May 2017. https://www.theregister.co.uk/2017/05/19/huawei_spied_us_jury_finds/

[15] Kate Fazzini, 'Why the US government is so suspicious of Huawei'. CNBC, 6 December 2018. https://www.cnbc.com/2018/12/06/huaweis-difficult-history-with-us-government.html

[16] Tim Culpan, 'Don't Worry About a U.S. Component Ban on Huawei' Bloomberg, 13 December 2018. https://www.bloomberg.com/opinion/articles/2018-12-12/huawei-components-ban-is-unlikely-with-trump-ready-to-deal

[17] Harry Cockburn, 'Germany 'planning to exclude Huawei from new 5G network' as US reportedly investigates theft claims', Independent, 17 January 2019. https://www.independent.co.uk/news/world/europe/huawei-germany-5g-network-security-china-us-canada-trade-secrets-stolen-meng-wanzhou-a8732661.html

[18] *Supra* note 4.

[19] James Pomfret, Anna Koper, 'Huawei sacks employee arrested in Poland on spying charges'. Reuters, 12 January 2019. https://www.reuters.com/article/us-huawei-poland-security/huawei-sacks-employee-arrested-in-poland-on-spying-charges-idUSKCN1P60E8

[20] National Cyber and Information Security Agency Warning (reference 3012/2018-NÚKIB-E/110) of 17 December 2018, https://www.govcert.cz/download/kii-vis/Warning.pdf.

[21] *Supra* note 5.

[22] *Supra* note 4.

[23] Huawei Cyber Security Evaluation Centre (HCSEC) Oversight Board Annual Report 2018. A report to the National Security Adviser of the United Kingdom, July 2018. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/727415/20180717_HCSEC_Oversight_Board_Report_2018_-_FINAL.pdf; 'Huawei opens Security Innovation Lab in Bonn'. Huawei, 16 November 2018. https://huawei.eu/media-centre/press-releases/huawei-opens-security-innovation-lab-bonn

[24] Richard Chirgwin, 'Huawei: 'trust us, we are being transparent''. The Register, 28 May 2013. https://www.theregister.co.uk/2013/05/28/huawei_trust_us_we_are_being_transparent/

[25] John S. McCain National Defense Authorization Act for Fiscal Year 2019. https://www.congress.gov/bill/115th-congress/house-bill/5515/text

ZTE

ZTE is one of China's leading telecom equipment manufacturers and one of the world's leading network gear providers. Its main products are core and transport network, wireless and fixed access, cloud computing and energy solutions. ZTE is partially owned and controlled by the Chinese state.[26]

Sanctions violations and cybersecurity. In 2017, ZTE was fined for illegally exporting US technology to Iran and North Korea in violation of economic sanctions.[27] In April 2018, the US Department of Commerce issued a 7-year export ban of ZTE products to US, which was lifted in July after ZTE replaced its senior management and agreed to pay additional fines and establish an internal compliance team.[28] Its recently issued Cybersecurity Statement emphasises ZTE's dedication to cybersecurity, cooperation and transparency.[29]

HYTERA, HANGZHOU HIKVISION, DAHUA TECHNOLOGY

Hytera is the second largest global radio terminal manufacturer with 13% of global market share.[30] It produces DMR, TETRA, LTE and MPT-1327 systems,[31] of which TETRA is specifically designed for use by government agencies, emergency services and public safety networks, transport services (rail in particular) and the military.

Hikvision and Dahua Technology are both Chinese providers of video surveillance products, holding the first and second position in global market share.

[26] Steve Stecklow and Karen Freifeld, 'UPDATE 7-U.S. bans American companies from selling to Chinese phone maker ZTE'. Reuters, 16 April 2018. https://www.reuters.com/article/usa-china-zte/update-7-u-s-bans-american-companies-from-selling-to-chinese-phone-maker-zte-idUSL1N1RT0IX; 'Factbox: U.S. bans sales to major Chinese telco equipment vendor ZTE'. Reuters, 17 April 2018. https://www.reuters.com/article/us-usa-china-zte-factbox/factbox-u-s-bans-sales-to-major-chinese-telco-equipment-vendor-zte-idUSKBN1HO125

[27] Paul Mozur, Cecilia Kang, 'U.S. Fines ZTE of China $1.19 Billion for Breaching Sanctions'. The New York Times, 7 March 2017. https://www.nytimes.com/2017/03/07/technology/zte-china-fine.html

[28] David Shepardson, Karen Freifeld, 'U.S. reaches deal to keep China's ZTE in business: congressional aide'. Reutersm 25 May 2018. https://www.reuters.com/article/us-usa-trade-china-zte/u-s-reaches-deal-to-keep-chinas-zte-in-business-congressional-aide-idUSKCN1IQ2JY

[29] ZTE Cybersecurity Statement, ZTE Corporation, 11 January 2019. https://www.zte.com.cn/global/404?path=/global/about/press-center/news/201901/201901111654

[30] 'Hytera'. DMR Association. https://www.dmrassociation.org/hytera.html

[31] 'Hytera'. http://www.hytera.com/navigation.htm?newsId=6478&columnType=news&pageType=solutionNews

2. Security environment: China's strategic reinforcement of its interests

National technological superiority agenda

The determination of the People's Republic of China to become a digital technology superpower dates back well over a decade, with China's 2006 long-term national innovation strategy setting goals of technological indigenous innovation and untying itself from the West. The effort has been backed by firm government guidance and control, with focused government investment into technology research and development. By restricting Western companies' access to the Chinese market, Chinese industry has been able to benefit from the economies of scale in its home market, largely unchallenged by foreign competitors.[32]

Government subsidy and direct financing has boosted Chinese companies' competitive position on the global market, both in terms of technological advance and affordable prices. Over recent years, Chinese capital has acquired numerous Western technology and infrastructure companies,[33] which is leaving European and US regulators increasingly concerned.[34]

Practice of espionage and influence operations

Security concerns around the use of Chinese technology are as old as their rising position on global markets. Western government officials and the security community have been uneasy about the possibility that technology produced by Chinese companies could be used by the Chinese government and military to spy on users.

China has a notorious reputation for persistent industrial espionage, and in particular for the close collaboration between government and Chinese industry in 'targeting academia, industry and government facilities for the purpose of amassing technological secrets'.[35] There is a long trail of examples of using governmental and military cyber capabilities for the purposes of economic espionage and influence operations.[36] In 2013, Mandiant released their renowned report exposing a multi-year Advanced Persistent Threat (APT) campaign, publishing evidence linking the APT1 group to the Chinese People's Liberation Army and detailing the group's systematic theft of confidential data from over 140 organisations across multiple industries.[37] Numerous accounts by various other actors have been reported since.[38] As recently as December 2018, the UK and its allies announced that a group known as APT 10 'acted on behalf of the Chinese Ministry of State Security to carry out a malicious cyber campaign targeting intellectual property and sensitive commercial data in Europe, Asia and the

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[32] See Mikk Raud, 'China and Cyber: Attitudes, Strategies, Organisation'. NATO CCDCOE, 2016. https://ccdcoe.org/uploads/2018/10/CS_organisation_CHINA_092016_FINAL.pdf

[33] For a good investigative report over Chinese acquisitions, see Andre Tartar, Mira Rojanasakul and Jeremy Scott Diamond, 'How China Is Buying Its Way Into Europe'. Bloomberg, 23 April 2018. https://www.bloomberg.com/graphics/2018-china-business-in-europe/;

[34] Jerker Hellström, 'China's Acquisitions in Europe: European Perceptions of Chinese Investments and their Strategic Implications'. FOI, December 2016. https://www.foi.se/rapportsammanfattning?reportNo=FOI-R--4384--SE; Janne Suokas, 'Chinese investment in US, Europe plummets in 2018'. GBTimes, 14 January 2019. https://gbtimes.com/chinese-investment-in-us-europe-plummets-in-2018

[35] Mikk Raud, *supra* note 32, 5.

[36] The influence operations aspect is emphasised by e.g. the Czech Republic's Annual Report of the Security Information Service for 2017, https://www.bis.cz/public/site/bis.cz/content/vyrocni-zpravy/en/ar2017en.pdf.

[37] 'Mandiant Releases Report Exposing One of China's Cyber Espionage Groups', https://www.fireeye.com/company/press-releases/2013/mandiant-releases-report-exposing-one-of-chinas-cyber-espionage-groups.html

[38] See, e.g., FireEye's catalogue of Advanced Persistent Threat groups, with accompanying reports https://www.fireeye.com/current-threats/apt-groups.html.

US'.[39] Of all economic espionage cases handled by the US Department of Justice between 2011-2018, 90% involved China.[40] Chinese cyber espionage is a concern also frequently raised by European national intelligence and cybersecurity agencies in their public assessments.[41]

Legal and political environment in China

The Chinese National Intelligence Law of 2016 requires all companies 'to support, provide assistance, and cooperate in national intelligence work, and guard the secrecy of any national intelligence work that they are aware of. The state shall protect individuals and organisations that support, cooperate with, and collaborate in national intelligence work'.[42] In the same manner, the 2014 Counterintelligence Law with its implementing acts lays down obligations for 'relevant organisations and individuals' to provide information, facilities, or other assistance, and states the relevant organisations and individuals 'must not refuse' cooperation.[43] These acts leave little assurance regarding proper judicial or public oversight to constrain the introduction of backdoors should the state deem this necessary for its broad notion of maintaining state security.

Most countries lack specific transparency and accountability mechanisms over Huawei operations. The UK Huawei Cyber Security Evaluation Centre (HCSEC), with its dedicated oversight board controlled by the UK cybersecurity authority NCSC and reporting to GCHQ, the UK intelligence and security agency, is so far unique in its model of operation. (The recent entities set up in Germany and Belgium lack a similar oversight arrangement.)[44] Even in the absence of an official relationship between a technology company and the Chinese government, the legal environment is conducive to using private companies and their technology as vehicles for espionage.[45] The Czech NCISA assessment notes that companies 'usually' do not refrain from such cooperation.[46]

Chinese and Western approaches to individual rights also differ fundamentally. The EU takes a strict stand on protecting individual privacy and restricts mass surveillance (as evident through the implementation of the General Data Protection Regulation (GDPR) and in recent landmark judgments by the European Court of Justice),[47] and both the EU and United States have solid intellectual property protection regimes, Chinese national policy – and the consequent legal environment – clearly favours state interests over private ones. Although customer relations in countries where Huawei operates are subject to local law, a vertically integrated company cannot ignore obligations stemming from overlapping jurisdictions.

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[39] 'UK and allies reveal global scale of Chinese cyber campaign'. Foreign & Commonwealth Office, National Cyber Security Centre, and The Rt Hon Jeremy Hunt MP, 20 December 2018. https://www.gov.uk/government/news/uk-and-allies-reveal-global-scale-of-chinese-cyber-campaign

[40] Cristina Maza, 'China Involved In 90 Percent Of Espionage And Industrial Secrets Theft, Department Of Justice Reveals'. Newsweek, 12 December 2018. https://www.newsweek.com/china-involved-90-percent-economic-espionage-and-industrial-secrets-theft-1255908

[41] *Supra* note 36; Estonian Information System Authority Annual Cyber Security Assessment 2017, https://www.ria.ee/sites/default/files/content-editors/kuberturve/ria_csa_2017.pdf; 'Intelligence Risk Assessment 2018', Estonian Foreign Intelligence Service, https://www.valisluureamet.ee/pdf/raport-2018-ENG-web.pdf

[42] Samantha Hoffman and Elsa Kania, 'Huawei and the ambiguity of China's intelligence and counter-espionage laws'. The Strategist, Australian Strategic Policy Institute, 13 September 2018. https://www.aspistrategist.org.au/huawei-and-the-ambiguity-of-chinas-intelligence-and-counter-espionage-laws/

[43] Ibid.

[44] Huawei cyber security evaluation centre: oversight board annual report 2017. https://www.gov.uk/government/publications/huawei-cyber-security-evaluation-centre-oversight-board-annual-report-2017.
https://www.theregister.co.uk/2018/12/18/german_cybersecurity_chief_show_me_the_huawei_evidence/

[45] 'Germany' BSI chief says 'No Evidence' of Huawei spying'. The Local, 16 December 2018. https://www.thelocal.de/20181216/german-it-watchdog-says-no-evidence-of-huawei-spying

[46] *Supra* note 20.

[47] Joined Cases C-203/15 and C-698/15 Tele2 Sverige AB and Watson; Joined Cases C-293/12 and C-594/12 Digital Rights Ireland

In a legal and political environment that compels companies to collaborate with intelligence agencies, opaque organisational and personal links between the companies and the state aggravate concerns. In 2012, a US House Intelligence Committee investigative report noted Huawei's failure 'to disclose details of its dealings with the Chinese military or intelligence services' and refusal to 'provide clear answers on the firm's decision-making processes'.[48] The Committee also received almost no information on the role of the Chinese Communist Party Committee within Huawei or its interaction with the Chinese government.[49]

[48] 'Investigative Report on the U.S. National Security Issues Posed by Chinese Telecommunications Companies Huawei and ZTE'. U.S. House of Representatives, 112th Congress, 8 October 2012. https://fas.org/irp/congress/2012_rpt/huawei.pdf.
[49] Ibid.

3. International law constraints

Since the primary risk of using Chinese technology arises from the influence exerted over Chinese companies by their government and military, the report will next consider applicable international law and treaty regimes to constrain China's behaviour, thereby potentially offering security assurances to Western governments.

Although acts of espionage within the country of operation are normally punishable under that country's domestic law,[50] espionage as such is not directly addressed in international law. Therefore, there is little legal restraint for state-to-state espionage in general, apart from specific acts that might be unlawful in their nature – such as a particular cyber operation breaching sovereignty or constituting prohibited intervention.

It is broadly accepted that state sovereignty, that is the right of a state to exclusively exercise the functions of state within its territory, also involves its authority over 'the cyber infrastructure, persons, and cyber activities located within its territory, subject to its international legal obligations'.[51] Conversely, a state's actions that disregard or obstruct another state from exercising its sovereignty constitute a violation of international law. For a particular cyber operation to qualify as violation of sovereignty (or a prohibited intervention, for that matter), the degree of infringement on the territorial integrity of the target state is to be considered, as well as the presence of interference with inherently governmental functions.[52] Furthermore, the nature and degree of state involvement in the operation is decisive in determining whether the activity constituted a breach of international law.[53] The mere identification of an exploitable vulnerability (such as a backdoor) in, for example, Huawei network gear would therefore have little significance from an international law perspective; each cyber operation would have to be qualified on its own based on evidence for specific facts. Again, this implies that international law, for all its merit, should not be regarded as a cyber risk management tool of choice.

China's sovereign authority over its domestic affairs means it is free to impose obligations on its industry, including for the purpose of intelligence collaboration. On the other side of the coin, sovereignty also means that Western states are in principle free to ban Chinese products, while respecting their obligations under international trade arrangements – in particular, the WTO General Agreement on Tariffs and Trade (GATT) which covers international trade in goods.

Article XXI of the WTO GATT contains a security exception which allows a party to take action or measures 'which it considers necessary for the protection of its essential security interests'.[54] The provision's broad scope (it was intended to exclude purely commercial measures under the guise of security[55]) means that even in the context of US-China GATT disputes, it would be difficult to dismiss restrictions introduced towards Huawei products despite commercial interests evidently being part of the disagreement.[56]

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[50] However, an exclusion of Huawei from domestic markets due to conviction of company personnel could be challenged on the grounds of disproportionality.

[51] See Rule 2 of the Tallinn Manual 2.0, with accompanying commentary. Michael N Schmitt (Ed.), *Tallinn Manual 2.0 on the International Law Applicable to Cyber Operations.* Cambridge University Press, 2017. For a dissenting perspective, see UK Attorney General Jeremy Wright, 'Cyber and International Law in the 21st Century' (May 2018), https://www.gov.uk/government/speeches/cyber-and-international-law-in-the-21st-century.

[52] Michael Schmitt, 'In defense of Sovereignty in Cyberspace', Just Security, 8 May 2018. https://www.justsecurity.org/55876/defense-sovereignty-cyberspace/

[53] See commentary accompanying Rule 4 (Sovereignty) in the Tallinn Manual, *supra* note 51. See also Rules 66 (prohibited intervention) and 68 (threat or use of force), with accompanying commentary, ibid.

[54] The General Agreement on Tariffs and Trade (GATT 1947), Article XXI. World Trade Organisation. https://www.wto.org/english/docs_e/legal_e/gatt47_02_e.htm#articleXXI.

[55] Brandon J. Murrill, 'The 'National Security Exception' and the World Trade Organization'. Congressional Research Service, 28 November 2018. https://fas.org/sgp/crs/row/LSB10223.pdf

[56] Noah Feldman, 'Huawei and 5G: A Case Study in the Future of Free Trade'. Bloomberg, 13 February 2019. https:// www.bloomberg.com/opinion/articles/2019-02-13/huawei-and-5g-a-case-study-in-the-future-of-free-trade

At the national and regional level, which for the majority of this report's constituency means the EU, competition law and public procurement rules may also need to be considered. While these do not differentiate between EU and non-EU companies, both the EU public procurement Directive 2014/24/EU[57] in general and the electronic communications Directive 2002/21/EC,[58] which addresses the operation of communications networks and the awarding of radio spectrum licences, including 5G, in particular contain exceptions allowing each member state 'to take the necessary measures to ensure the protection of its essential security interests, to safeguard public policy and public security'.

[57] Directive 2014/24/EU of the European Parliament and of the Council of 26 February 2014 on public procurement and repealing Directive 2004/18/EC. OJ L 94, 28.3.2014, p. 65–242. http://data.europa.eu/eli/dir/2014/24/oj

[58] Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services (Framework Directive) (OJ L 108, 24.4.2002, p. 33), https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:L:2002:108:TOC.

4. Emerging national responses

The discussion around accepting or restricting Huawei technologies for 5G is characteristic of the adage of 'not seeing the wood for the trees'. Despite growing attention to cybersecurity, the matter is often viewed purely through the lens of risk to a particular communications operator and to their service continuity, missing the dimension of the core communications network constituting the digital backbone of a nation, with cascading cross-sector and often transboundary dependencies for other essential services, and thereby for the society in general. While proper implementation of security baselines by the communications operator will minimise risks, a level of residual risk cannot be eliminated completely, and dependency risks are typically beyond the operator's visibility and control.

Core communications networks constitute fundamental infrastructure and therefore are an essential national interest, bearing national security implications. The fact that Huawei (and ZTE) technology is to be deployed for backbone communications networks means that it would become part of the core national communications infrastructure that a range of essential services and socioeconomic functions rely upon. This implies that Huawei would provide critical components in systems of strategic importance for society, including security services and the military, both due to the latter's partial reliance on these systems and a mandate to protect them during crisis.

The significance of fundamental infrastructure to the functioning of society makes the deployment of communications infrastructure a strategic decision not merely for the telecommunications operator, but for the nation, particularly as 5G is expected to lead to a massive growth of IoT-enabled services, 'upgrading' not merely the degree but the very character of contemporary societies' digital dependency. Therefore, a potential cyber incident – loss of availability, integrity, or confidentiality of data or systems – may have various degrees of impact on national security and vital national interests, potentially up to crisis situations.[59] As such risks cannot fundamentally be precluded with any supplier, the supplier's reliability as a partner to prevent, detect and disclose possible vulnerabilities and to cooperate in risk mitigation bears an even greater significance. Given the cost and difficulty of replacing or duplicating core infrastructure due to the architectural changes required and limited spectrum availability, supplier-side risks must be weighed in a comprehensive manner and beforehand.

Furthermore, due to its relative permanence, infrastructure deployment decisions could have long-term effects on cooperation with international partners and allies by potentially creating risks to sharing sensitive information – something that the United States, for example, has recently cautioned NATO allies about.[60]

Given these concerns, several nations have opted to impose restrictions on the use of Chinese technology in their domestic infrastructure. It bears noting that national positions regarding Huawei *et al.* are still evolving, especially as new facts come to light and other actors express their positions. This also means that a country's earlier restraint in introducing restrictions should not necessarily be considered as set in stone, and existing positions are likely to become more nuanced both in terms of the depth of limitations and the sectors or services to which they apply. Due to different security cultures, degrees of digital dependency, existing capabilities and different priorities, even Western democracies vary in how they perceive the increasing foothold of Chinese technology. This also impacts the choice of means to address the security concerns.

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[59] See the reasoning in the Czech NCISA warning, *supra* note 20.
[60] Lesley Wroughton, Gergely Szakacs, 'Pompeo warns allies Huawei presence complicates partnership with U.S'. Reuters, 11 February 2019. https://www.reuters.com/article/us-usa-pompeo-hungary/pompeo-warns-allies-huawei-presence-complicates-partnership-with-u-s-idUSKCN1Q0007; Nick Wadhams and Zoltan Simon, 'Pompeo Hints at Huawei Ultimatum to Countries Buying Equipment'. Bloomberg, 11 February 2019. https://www.bloomberg.com/news/articles/2019-02-11/pompeo-hints-at-huawei-ultimatum-to-countries-buying-equipment

National practice towards restricting or accepting Chinese technology varies from binding legislative or administrative means by the state to restrict specific manufacturers (such as in the case of the United States and the Czech Republic), issuing non-binding guidance (Estonia), or voicing abstention from introducing restrictions. For example, Australia,[61] the Czech Republic[62] and Japan[63] have issued mandatory security guidance that excludes providers potentially controlled by foreign governments. Alternatively, New Zealand has blocked an operator's plan to deploy Huawei 5G technology on the basis of the 2013 Telecommunications (Interception Capability and Security) Act[64] due to 'significant national security risks'.[65]

The United States adopted a law in 2018 prohibiting the purchase and use of telecommunications and surveillance products by specific Chinese companies.[66] Huawei recently challenged this move as 'unconstitutional', restrictive of fair competition, and harmful of US consumers,[67] but its prospects of success may be thin since national security interests are standard grounds for limiting open competition as long as they follow fair process and are not arbitrary.[68]

Non-binding measures by the state have involved competent national authorities issuing security guidance, whether this is voluntary (Estonia) or *de facto* followed as binding.[69]

There are also countries which have chosen to abstain from restrictions. The head of Germany's Federal Office for Information Security (BSI) noted in October 2018 that evidence would be needed in order to introduce a ban on Huawei equipment. The position was, however, revised, and in February 2019, reports hinted at Germany requiring a possible 'no-spy deal' similar to the US-China 2015 agreement (which, the US claims, China has since abandoned).[70] The Slovakian Prime Minister has said that the country does not consider Huawei a security threat and would need evidence of risk before imposing any restrictions.[71]

National measures follow a risk-based approach. The restrictions that countries have introduced to date have not been universal, but instead appear to consider the degree of risk to a specific sector, service, or system. Legal measures have typically been limited to government agencies and essential service operators, including communications operators bidding for 5G licences, while non-binding guidance may be issued to the wider public[72] or there may be none at all. Furthermore, the extent of restrictions is occasionally subject to a service risk assessment, such as in the Czech case, requiring that threats to the system be evaluated on a case-by-case basis.[73]

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[61] Ministers for Communications and the Arts, 'Government Provides 5G Security Guidance To Australian Carriers'. 23 August 2018. https://www.minister.communications.gov.au/minister/mitch-fifield/news/government-provides-5g-security-guidance-australian-carriers
[62] *Supra* note 20.
[63] 'Japan bans Huawei and its Chinese peers from government contracts'. Nikkei Asian Review, 10 December 2019. https://asia.nikkei.com/Economy/Trade-war/Japan-bans-Huawei-and-its-Chinese-peers-from-government-contracts
[64] Telecommunications (Interception Capability and Security) Act 2013. http://www.legislation.govt.nz/act/public/2013/0091/latest/whole.html#DLM5177923
[65] 'GCSB declines Spark's proposal to use Huawei 5G equipment'. Spark New Zealand, 28 Nov 2018. https://www.sparknz.co.nz/news/GCSB_declines_Spark_proposal_Huawei/
[66] Sec. 889 of the John S. McCain National Defense Authorization Act, *supra* note 66.
[67] Sijia Jiang, Jan Wolfe, 'Huawei fights back against U.S. blackout with Texas lawsuit'. 7 March 2019, https://www.reuters.com/article/us-usa-china-huawei-tech-filing/huawei-sues-us-government-seeks-ndaa-ban-lift-idUSKCN1QO061
[68] See a similar reference to domestic competition law in the Czech warning, *supra* note 20.
[69] Toomas Pott, 'Eesti riigivõrkudes Huawei seadmeid turvakaalutlustel ei kasuta'. ERR, 6 December 2018. https://www.err.ee/882737/eesti-riigivorkudes-huawei-seadmeid-turvakaalutlustel-ei-kasuta
[70] Guy Chazan, 'German cyber security chief backs 5G 'no spy' deal over Huawei'. Financial Times, 28 February 2019. https://www.ft.com/content/5a0fe826-3b34-11e9-b856-5404d3811663
[71] Tatiana Jancarikova, 'Slovakia has no evidence of Huawei security threat - prime minister' Reuters, 30 January 2019. https://www.reuters.com/article/us-usa-china-huawei-slovakia/slovakia-has-no-evidence-of-huawei-security-threat-prime-minister-idUSKCN1PO1TO
[72] *Supra* note 8.
[73] *Supra* note 20.

Specific or customised means can be used to mitigate risks, but they require national capacity and Huawei's willingness to cooperate. Huawei cybersecurity centres in the UK and Germany are examples of this. The UK Huawei Cyber Security Evaluation Centre (HCSEC), set up in 2010 to evaluate Huawei hardware and software, is controlled by the UK cybersecurity authority NCSC (part of the UK intelligence and security agency GCHQ). Its Oversight Board produces regular reports of its findings, most recently in July 2018.[74] The head of NCSC recently recognised that this detailed, formal oversight, building on a decade of formally agreed mitigation strategy and detailed provision of information, means that the UK regime is arguably the toughest and most rigorous oversight regime in the world for Huawei, and that it is proving its worth.[75] Huawei set up an assessment centre in Germany in November 2018 'to work with German customers, partners and research institutions as well as government and supervisory authorities'[76] and an EU Cyber Security Transparency Centre in Brussels in March 2019.[77] It has offered to establish a similar one in Poland.[78] It is still too early to tell whether these will prove effective or even credible as transparency and assurance mechanisms, as there does not appear to be a similar oversight arrangement to that of the UK.[79]

In any case, assessment by such bodies encompasses standard cybersecurity practices; it does not extend to assessing intelligence activity by China. The UK NCSC notes that it still has strict controls for how Huawei is deployed – its technology is not accepted into sensitive networks, including those of the government.[80]

Such an assessment and oversight approach may not be affordable for a small country or may be too onerous to justify investment for Huawei, which means that smaller countries will inevitably depend on partner institutions information-sharing or may be aligned towards using legally less precise instruments such as outright limitations.

Speeding up the maturing of alternative providers is an option. In mid-January 2018, Canada signalled its interest in Nokia technology by granting the company $40 million in 5G-related R&D funding.[81] Such means of stimulating supply diversity also help prevent undesirable market dominance by any one company, regardless of origin.

And finally, in the absence of – or next to – practice by states, it is service providers who are taking the initiative. For example, BT Group, the UK's leading telecommunications operator, announced a decision in December 2018 to abandon Huawei devices (both existing 3G and 4G, and new 5G);[82] Deutsche Telekom reported it was reviewing its vendor strategy; and Orange (formerly France Telecom) announced that it would not use Huawei devices.[83] Denmark's largest

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[74] *Supra* note 44; Andrew Orlowski, 'German cybersecurity chief: Anyone have any evidence of Huawei naughtiness?' The Register, 18 December 2018. https://www.theregister.co.uk/2018/12/18/german_cybersecurity_chief_show_me_the_huawei_evidence/

[75] Ciaran Martin's CyberSec speech in Brussels. NCSC, 20 February 2019. https://www.ncsc.gov.uk/news/ciaran-martins-cybersec-speech-brussels

[76] 'Huawei opens Security Innovation Lab in Bonn'. Huawei, 16 November 2018. https://huawei.eu/media-centre/press-releases/huawei-opens-security-innovation-lab-bonn

[77] 'Huawei Cyber Security Transparency Centre Opens in Brussels'. Huawei, 5 March 2019. https://www.huawei.com/en/press-events/news/2019/3/huawei-cyber-security-transparency-centre-brussels

[78] Huawei offers to build cyber security center in Poland. https://in.reuters.com/article/us-poland-security/huawei-offers-to-build-cyber-security-center-in-poland-idINKCN1PV10P

[79] *Supra* note 77; Alex Ralph, 'Huawei opens without oversight board'. The Times, 6 March 2019. https://www.thetimes.co.uk/article/huawei-reassures-eu-with-security-lab-w9vzc2033

[80] *Supra* note 75.

[81] David Olive, 'What's at stake for Trudeau, Canada and Huawei'. The Star, 28 January 2019. https://www.thestar.com/business/opinion/2019/01/28/whats-at-stake-for-trudeau-canada-and-huawei.html

[82] 'BT bars Huawei's 5G kit from core of network'. BBC, 5 December 2018. https://www.bbc.com/news/technology-46453425;

[83] Douglas Busvine, Gwénaëlle Barzic, 'Deutsche Telekom reviews Huawei ties; Orange says no on 5G'. Reuters, 14 December 2018. https://www.reuters.com/article/us-huawei-europe-germany/deutsche-telekom-reviews-huawei-ties-orange-says-no-on-5g-idUSKBN1OD0G7

telecommunications operator TCD recently announced that it has chosen Ericsson for its 5G supplier due to considerations of quality.[84]

Is it mere protectionism? Given the frequent claim by Huawei and China[85] of restrictions upon Huawei technology being motivated by protectionist interests, this bears brief consideration. The current US-China trade dispute is something that cannot be overlooked. Yet it should not be overplayed as the sole driving reason. The restriction of Huawei technology has a long history and did not begin with the current US administration. Moreover, neither the US nor Australia, New Zealand, the Czech Republic *et al.* currently produce 5G technology themselves, so there are no domestic companies to benefit from these decisions.[86] To the contrary – many countries are eager to launch 5G networks due to the expected quality and innovative services, and a decision to rely on competitors would at the current stage certainly delay deployment.

[84] Sandra Meersohn Meinecke, 'Tech-analytiker om fravalget af Huawei: Sikkerhed og tryghed koster mere'. DR, 19 March 2019. https://www.dr.dk/nyheder/indland/tech-analytiker-om-fravalget-af-huawei-sikkerhed-og-tryghed-koster-mere

[85] 'Australia bans Huawei from 5G network over security concerns'. AP News, 23 August 2018. https://www.apnews.com/1419a86b429248a08ac6aece6d7684f0

[86] *Supra* note 12.

5. Conclusions and recommendations

The core of the Huawei *et al.* debate is not a narrow technology issue. There is, to date, no public evidence of serious technological vulnerabilities in specific Huawei or ZTE equipment. That said, it is fundamentally impossible to rule out potential technology flaws that can be exploited in the future. It does not matter that Chinese technology is, in this regard, no different from technology produced elsewhere. Whether vulnerabilities occur due to wilful action or become exploitable due to failure (to patch software or poor configuration, etc.) on the part of the user is of secondary significance. The potential is there. It remains a concern because procurement of a particular vendor's technology creates a degree of dependence: procuring digital technology is not merely about procuring 'an object', it involves long-term commitment to a relationship with a supplier. Given these prerequisites, the core of the Huawei dilemma is rather about determining which supplier one can trust and what mechanisms does such trust rely on: is it partner credibility, verifiability and accountability, or something else?

China's legal and political environment, along with its known practice of 'public-private partnership' in cyber espionage remain a concern. Chinese government and military cyber entities are among the most capable actors in the world. There are numerous examples of using private actors for the purposes of economic espionage and influence operations in state interests. Chinese companies are required by law to cooperate with their government in support of Chinese national interests, including participation in intelligence activities. Scarcity of accountability mechanisms and opaque organisational and personal links between the companies and the state mean there is little constraint for such 'cooperation'. The ties and interaction between the government and industry are based on a fundamentally different approaches from that which Western practice finds acceptable. China has made no secret of its ambition to reshape a Western-dominated global system.[87]

The security dilemma

The issue of Huawei technology and 5G represents classic dilemmas inherent to cybersecurity: the impact of stimulating the economy to national security and vice versa, and of modernising infrastructure to critical infrastructure protection (and vice versa).[88] Given the significance of backbone national infrastructure, defining a position on these dilemmas is a far more complex challenge than simply finding an acceptable balance on a linear scale: it entails comprehensive understanding of all risks, socioeconomic and security, and mitigating those that are critical by means that are available, i.e. that the society can afford. A level of burden sharing is inevitable: it is not just operator risks that apply, and therefore it should not be just up to the operator to mitigate them.

Given that the issue is more complex than merely the current state of Huawei *et al.'s* technology, it is rational and responsible to consider means of deterring potential future exploitation and to mitigate apparent risks. The concern voiced by the Czech NCISA is not unique – the degree of potential risk to any state is not negligible. Possible loss or interruption of availability, integrity or confidentiality in such systems may have a significant effect which could lead to the emergence of a crisis.

The question is whether we can afford the promise of a 'cheaper' solution put forward by Huawei technology. The current wake-up to the Chinese cyber threat occurs at a time of growing political awareness of digital dependency in societies. Compared to barely half a decade ago, there is greater acknowledgement of the need to take lifecycle costs into account when procuring digital technology, rather than just deployment cost. However, the long-term strategic cost – to the operator, to dependent services and to society, not to mention to international partnerships – is notoriously difficult to measure

[87] See, e.g. Chinese President and Communist Party leader Xi Jinping's 'Xi Jinping And His Era'. China Daily, 18 November 2017. http://www.chinadaily.com.cn/kindle/2017-11/18/content_34683261.htm.

[88] See Alexander Klimburg (Ed.), National Cyber Security Framework Manual. NATO CCDCOE, 2012. https://ccdcoe.org/library/publications/national-cyber-security-framework-manual/. 34-39.

and therefore often ignored. The complexity of estimating their impact does not make these categories less relevant, however.

The authors therefore maintain that viable alternatives to Huawei technology are necessary to preserve flexibility of choice and to prevent being trapped with one supplier without a way out. To this end, R&D investment and strengthening regional industry are not purely issues of global competitiveness, but should also be considered – and importantly, pursued – for their security dimension.

Recommendations

5G rollout needs to be recognised as a strategic rather than merely a technological choice. Solutions chosen today will steer and limit the choices available for years to come. Given the complexity of socioeconomic and security issues affected by the decision to deploy backbone digital infrastructure, the issue of welcoming or refusing Huawei or other Chinese providers cannot be left for technocrats alone to resolve. It requires the political will to step out of the comfort zone and tackle complex aspects of technology, economy and security, the effect of which will span well beyond parliamentary election terms.

A shared concern necessitates a coordinated response. There is growing appetite among EU member states and NATO allies on EU/NATO coordination in this matter. In January 2019, Poland's Minister of Internal Affairs called for the EU and NATO to take a 'joint stance' on Huawei after the arrest of a Huawei employee on spying charges.[89] A similar sentiment was also expressed by the Estonian IT minister.[90] EU Commissioner Julian King, in his speech at the Munich Security Conference in February, outlined a number of critical issues regarding European digital resilience towards foreign threats. These included the uncoordinated issuing of 5G spectrum licences, sales of European cutting edge technologies to foreign capital, and the need for coordinated investment in AI, quantum computing and cryptography so that the action of individual countries will constitute more than merely 'the sum of its parts'.[91] He also highlighted the need for acknowledging critical elements in the European digital ecosystem. None of these issues are easy to resolve and are likely to require going beyond existing safeguards to address the risk. Next to political will to act, this indicates a need for radically improved understanding of the intertwined nature of contemporary digital ecosystems – which is even more true of EU member states due to their political and market independencies going beyond mere technology.

The dilemma at hand primarily concerns civilian networks, so it is not overly likely that NATO will take a lead in coordinating action. However, the NATO Alliance is, and will remain, an important venue for allies and partners for sharing information on threats, and that capacity should not be viewed as separate from defining a common approach among liberal (and European in particular) democracies. The issue of Huawei technology is, however, not without relevance to the Alliance. NATO depends of national critical infrastructure to execute national operations and missions. Infrastructure security issues may affect NATO networks or deployed networks such as the Federated Mission Network. Such networks can also be exposed to risk because their extensions may use host nation civilian infrastructure.

One size does not fit all: there is a need for nuanced risk awareness and risk management tools. Pending a common position – or possibly complementing one – national positions regarding accepting or restricting Huawei technology will likely remain conditioned by the degree of criticality of a risk to a particular service or sector. To deal with these in an adequate and proportionate manner, nations need to re-evaluate their societies' essential functions in the digital era, the nature and degree of dependence of these on digital infrastructure, and continuity mechanisms, including alternative solutions.

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[89] 'EU, NATO should agree on joint position towards Huawei: Poland.' Reuters, 12 January 2019. https://www.reuters.com/article/us-poland-security/eu-nato-should-agree-on-joint-position-towards-huawei-poland-idUSKCN1P60FV

[90] *Supra* note 69.

[91] Commissioner King's keynote speech at the Munich Cyber Security Conference. 14 February 2019. https://ec.europa.eu/commission/commissioners/2014-2019/king/announcements/commissioner-kings-keynote-speech-munich-cyber-security-conference_en

There is room for nuanced approaches regarding the potential risk of Huawei solutions, too, instead of a blanket ban: the model of inclusive, competent, and transparent oversight embodied in the UK Huawei supervisory board is a good example. Such 'confidence building' and risk mitigation measures may, however, be accessible only to countries with extensive resources and expertise. Realistically this approach would be viable for approximately one third of EU and NATO member states, leaving the rest with the dilemma of choosing their dependencies: trust Chinese technology or trust their partners' insight. The need to share insight and expertise through regional competence centres becomes all the more compelling, given nations' universal shortage of highly specialised experts and the rapidly evolving 5G technology and the market.

Certainly, there are no easy responses to this dilemma. Shutting the door to cooperation with Huawei and China may backfire, as it deprives European and other regional industries of a chance to develop 5G services. This leaves development to be driven by Chinese companies, which can well afford it given the scope and growing purchasing power of their home market and their active engagement with developing countries as growing future markets for new technology.

Finally, risks associated with investments and takeovers by foreign capital are structural and are not specific to digital infrastructure. From a holistic point of view, 5G is but an example among many of China using economic power to acquire a more dominant position in global affairs. Its numerous acquisitions of Western technology and infrastructure companies have left European and US regulators increasingly concerned. As part of the Belt and Road initiative,[92] China is further seeking wide-spectrum plans of cooperation in the development of roads, railways, bridges, civil aviation, ports, energy and telecommunications with many Western countries.

The reluctance of Western countries to deploy critical network solutions – 5G or otherwise – originating from non-democratic states is likely to grow as the latter are becoming more assertive and methodical in their practice of enforcing 'sovereignty' over their 'information space' and markets. Meanwhile, nations with better awareness of risks and a stronger commitment to tackle them could become less inclined to work closely with states that do not share their concerns. Diverging acknowledgement of and inclination to address security risk from using technology from companies such as Huawei has the potential to sow division among both NATO and EU member and partner states. The question is: how will Western democracies tackle this?

With a binary choice of 'take it or leave it' not among the options – there are as of yet no equivalent alternatives to Huawei 5G technology; the West is neither able nor willing to afford a technological stagnation, and with the expected socioeconomic benefits in the promise of 5G, states will likely remain pragmatic in their approaches. Whether by issuing security guidance to reinforce the security of critical government and commercial functions, strengthening risk assessment and management processes, or agreeing on transparency and accountability mechanisms, national responses will likely seek to improve risk mitigation.

[92] 'Belt and Road Initiative'. The World Bank, 29 March 2018. https://www.worldbank.org/en/topic/regional-integration/brief/belt-and-road-initiative

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LEADERSHIP FOR IT SECURITY & PRIVACY ACROSS HHS

HHS CYBERSECURITY PROGRAM

OFFICE OF INFORMATION SECURITY

Chinese State-Sponsored Cyber Activity

11/19/2020

Report #: 202011191030

Agenda

- Timeline of Recent Activity
- Chinese APT Groups
- Pre-pandemic Targeting
- Targeting during COVID-19
- Exploited Vulnerabilities
- Patches and Mitigations
- Outlook

Slides Key:

Non-Technical: Managerial, strategic and high-level (general audience)

Technical: Tactical / IOCs; requiring in-depth knowledge (sysadmins, IRT)

Timeline of Recent Activity

Dec 2019
APT20 Bypasses 2FA

Jan – Mar 2020
APT41 sweeping espionage campaign

April 2020
U.S. reports surge in Chinese hackers targeting healthcare

May 2020
U.S. accuses China of attempting to steal COVID-19 research

July 2020
Two MSS-affiliated hackers charged trying to steal coronavirus research

Aug 2020
USG exposes new TAIDOOR malware strain

Sep 2020
Chinese intel linked hackers target USG and private sector and U.S. charges five APT41 hackers

Oct 2020
USG warns hackers chaining vulnerabilities and NSA shares 25 vulnerabilities exploited by Chinese hackers

Nov 2020
APT10 exploiting ZeroLogon in global campaign targeting orgs with nexus to Japan

Chinese APT Groups Targeting HPH Sector

- According to industry experts, China has the most number of active APTs and threat actor groups when compared to other countries, followed by Russia, Iran and North Korea.
- FireEye currently publicly tracking a **total of at least 28 APT groups** with suspected attribution to China
- Out of these 28 Chinese APT groups, at least 8 of them are known to have previously targeted the healthcare and public health (HPH) sector:

1. APT41
2. APT24 AKA PittyTiger
3. APT22
4. APT20 AKA Twivy
5. APT18 AKA Wekby
6. APT10 AKA Menupass
7. APT9 AKA Nightshade Panda
8. APT1 AKA Unit 61398, Comment Crew

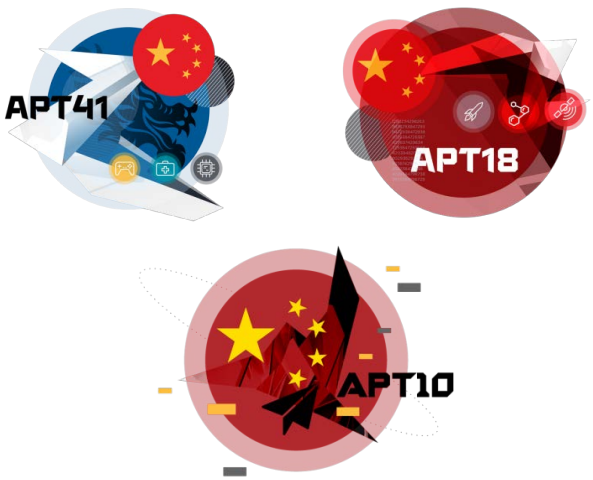

Image source: fireeye.com

APT41

Suspected attribution: China

Target sectors: APT41 has directly targeted organizations in at least 14 countries dating back to as early as 2012. The group's espionage campaigns have targeted healthcare, telecoms, and the high-tech sector, and have historically included stealing intellectual property. Their cyber crime intrusions are most apparent among video game industry targeting, including the manipulation of virtual currencies, and attempted deployment of ransomware. APT41 operations against higher education, travel services, and news/media firms provide some indication that the group also tracks individuals and conducts surveillance.

Image source: fireeye.com

Overview: APT41 is a prolific cyber threat group that carries out Chinese state-sponsored espionage activity in addition to financially motivated activity potentially outside of state control.

Associated malware: CROSSWALK, HIGHNOON, xDoor, Xmrig, ASPXSpy, China Chopper, BEACON, MESSAGETAP, Gh0st, njRAT, PlugX, ZxShell, Mimikatz, and BLACKCOFFEE, POISONPLUG

Attack vectors: APT41 often relies on spear-phishing emails with attachments such as compiled HTML (.chm) files to initially compromise their victims. Once in a victim organization, APT41 can leverage more sophisticated TTPs and deploy additional malware. For example, in a campaign running almost a year, APT41 compromised hundreds of systems and used close to 150 unique pieces of malware including backdoors, credential stealers, keyloggers, and rootkits. APT41 has also deployed rootkits and Master Boot Record (MBR) bootkits on a limited basis to hide their malware and maintain persistence on select victim systems.

APT41 Wanted Poster (September 2020)
Image source: FBI

APT24

Also known as: PittyTiger

Suspected attribution: China

Target sectors: APT24 has targeted a wide variety of industries, including organizations in the healthcare, government, construction and engineering, mining, nonprofit, and telecommunications industries.

Overview: This group is known to have targeted organizations headquartered in countries including the U.S. and Taiwan usually for the goal of intellectual property theft. APT24 has historically used the RAR archive utility to encrypt and compress stolen data prior to transferring it out of the network. Data theft exfiltrated from this actor mainly focused on documents with political significance, suggesting its intent is to monitor the positions of various nation states on issues applicable to China's ongoing territorial or sovereignty dispute.

Associated malware: PITTYTIGER, Mimikatz, ENFAL, TAIDOOR, Gh0st RAT, PoisonIvy

Attack vectors: APT24 has used phishing emails that use military, renewable energy, or business strategy themes as lures. PittyTiger also attempts to obtain legitimate credentials during operations (T1078) and has leveraged vulnerabilities in Microsoft Office products.

Image source: fireeye.com

APT22

Also known as: Barista

Suspected attribution: China

Target sectors: Healthcare, biomedical, and pharmaceutical as well as a broad set of political, military, and economic entities in East Asia, Europe, and the U.S.

Overview: APT22 likely has a nexus to China and has been operational since at least early 2014, carrying out intrusions and attack activity against public and private sector entities, including dissidents. Conducted multi-year targeting of health center focused on cancer research.

Associated malware: PISCES, SOGU (AKA PlugX), FLATNOTE, ANGRYBELL, BASELESS, SEAWOLF, LOGJAM

Attack vectors: APT22 threat actors have used strategic web compromises in order to passively exploit targets of interest. APT22 actors have also identified vulnerable public-facing web servers on victim networks and uploaded web shells to gain access to the victim network.

Image source: fireeye.com

APT20

Also known as: Twivy

Suspected attribution: China

Target sectors: Healthcare, construction and engineering, non-profit organizations, defense industrial base and chemical research and production companies, MSPs

Overview: APT20 engages in cyber operations where the goal is data theft. APT20 conducts intellectual property theft but also appears interested in stealing data from or monitoring the activities of individuals with particular political interests. Based on available data, this is likely a freelancer group with some nation state sponsorship located in China.

Associated malware: QIAC, SOGU (AKA DestroyRAT, PlugX, Korplug), Gh0st RAT, ZXSHELL, Poison Ivy, BEACON (Cobalt Strike), HOMEUNIX, STEW

Attack vectors: APT20 has exploited vulnerabilities in Jboss web servers using 'living off the land' techniques and succeeded in moving laterally throughout network to compromise systems and dump passwords of admin accounts. The group has also successfully bypassed two-factor authentication (2FA) on VPN accounts.

Image source: fireeye.com

APT18

Also known as: Wekby, TG-0416, Dynamite Panda

Suspected attribution: China

Target sectors: Health and Biotechnology, Aerospace and Defense, Construction and Engineering, Education, High Tech, Telecommunications, Transportation

Overview: Very little has been released publicly about this group but APT18 is believed to be responsible for the 2014 attack on Community Health Systems Inc. which resulted in theft of SSNs and PII for 4.5 million patients.

Associated malware: Gh0st RAT, HTTPBrowser, pisloader, PoisonIvy

Attack vectors: Frequently developed or adapted zero-day exploits for operations, which were likely planned in advance. Used data from Hacking Team leak, which demonstrated how the group can shift resources (i.e. selecting targets, preparing infrastructure, crafting messages, updating tools) to take advantage of unexpected opportunities like newly exposed exploits. APT18 previously exploited the OpenSSL Heartbleed vulnerability in 2014.

Image source: fireeye.com

APT10

Also known as: Menupass Team, Stone Panda, Red Apollo, Cicada, CVNX, HOGFISH, Cloud Hopper

Suspected attribution: China

Target sectors: Healthcare, construction and engineering, aerospace, and telecom firms, and governments in the United States, Europe, and Japan

Overview: APT10 is a Chinese cyber espionage group tracked since 2009. Researchers believe that the targeting of these industries has been in support of Chinese national security goals, including acquiring valuable military and intelligence information as well as the theft of confidential business data to support Chinese corporations.

Associated malware: HAYMAKER AKA ChChes AKA Scorpion, SNUGRIDE, BUGJUICE AKA RedLeaves (overlap with PlugX), QUASARRAT AKA xRAT

Attack vectors: Traditional spear phishing and access to victim's networks through managed service providers (MSPs). APT10 spear phishes have been relatively unsophisticated, leveraging .lnk files within archives, files with double extensions. APT10 has successfully remained undetected in victim environments for up to a year. The group has been seen leveraging 'living off the land' techniques, DLL-side-loading and custom DLL loaders, ZeroLogon vulnerability, RAR archiving, certutil, adfind, csvde, ntdsutil, WMIExec, and PowerShell as well as using legitimate cloud file hosting services for exfiltration.

Image source: fireeye.com

APT9

Also known as: Nightshade Panda

Suspected attribution: Based on available data, we assess that this is a freelancer group with some nation-state sponsorship, possibly China.

Target sectors: Organizations headquartered in multiple countries and in industries such as health care and pharmaceuticals, construction and engineering, and aerospace and defense.

Overview: APT9 engages in cyber operations where the goal is data theft, usually focusing on the data and projects that make a particular organization competitive within its field.

Associated malware: SOGU (AKA DestroyRAT, PlugX, Korplug), HOMEUNIX, PHOTO (AKA Derusbi), FUNRUN, Gh0st, ZXSHEL

Attack vectors: APT9 was historically very active in the pharmaceuticals and biotechnology industry. Researchers observed this actor use spearphishing, valid accounts, as well as remote services for Initial Access. On at least one occasion, analysts observed APT9 at two companies in the biotechnology industry and suspect that APT9 actors may have gained initial access to one of the companies by using a trusted relationship between the two companies. APT9 use a wide range of backdoors, including publicly available backdoors, as well as backdoors that are believed to be custom, but are used by multiple APT groups.

Image source: fireeye.com

Also known as: Comment Crew, TG-8223, Group 3, Byzantine Candor

Suspected attribution: China's People's Liberation Army (PLA) General Staff Department's 3rd Department, Unit 61398

Target sectors: Healthcare, Information Technology, Scientific Research and Consulting, International Organizations, Food and Agriculture, Education, and many more

Overview: APT1 has systematically stolen hundreds of terabytes of data from at least 141 organizations, and has demonstrated the capability and intent to steal from dozens of organizations simultaneously. The group focuses on compromising organizations across a broad range of industries in English-speaking countries. The size of APT1's infrastructure implies a large organization with at least dozens, but potentially hundreds of human operators.

Associated malware: TROJAN.ECLTYS, BACKDOOR.BARKIOFORK, BACKDOOR.WAKEMINAP, TROJAN.DOWNBOT, BACKDOOR.DALBOT, BACKDOOR.REVIRD, TROJAN.BADNAME, BACKDOOR.WUALESS, PoisonIvy, Gh0st RAT, Mimikatz, Seasalt (similar to OceanSalt)

Attack vectors: Spear phishing for initial compromise leveraging malicious attachment or hyperlink to malicious file; use of mainly custom but also some public backdoors; usually installs numerous backdoors in victim environments

Image source: SecurityAffairs

Five Chinese Military Hackers Charged with Cyber Espionage Against U.S.

From left, Chinese military officers Gu Chunhui, Huang Zhenyu, Sun Kailiang, Wang Dong, and Wen Xinyu have been indicted on cyber espionage charges.

Members APT1 AKA Comment Crew, Unit 61398 Wanted Poster (May 2014)
Image source: FBI

Pre-Pandemic Targeting

- China has long been driven by an interest in acquiring medical research and collecting large data sets of information, potentially for the purposes of fostering intelligence operations.
- Actors observed targeting the healthcare sector include China-nexus APT10 (Menupass) and APT41
- In early April 2019, suspected Chinese cyber espionage actors targeted a U.S.-based health center—with a strong focus on cancer research—with EVILNUGGET malware. One of the lure documents referenced a conference hosted by the targeted organization. In alignment with a trend we continue to witness affecting healthcare, this same organization has been targeted by multiple Chinese threat actors in the past.
  - A year prior in 2018, China-nexus APT41 used CROSSWALK malware to spearphish individuals at this same healthcare entity.
  - APT22—a Chinese group that has focused on biomedical, pharmaceutical, and healthcare organizations in the past, and continues to be active—also targeted this same organization in prior years.
- August 2019: Chinese hackers focused on cancer research

Targeted Industries

Healthcare

Biotechnology

Biomedical

Pharmaceutical

Cancer research & Oncology treatment

Targeting During Pandemic

- More aggressive targeting of organization involved in COVID-19 response and Operation Warp Speed (OWS)
- Biotech and other firms publicly known for work on COVID-19 vaccines, treatments, and testing technology in the US and abroad
  - **January 2020**: LI searched for vulnerabilities at a Maryland biotech firm which had days prior announced work on COVID-19 vaccine
  - **February 2020**: LI searched for vulnerabilities in network of a California biotech firm that had just announced research for antiviral drugs to treat COVID-19
  - **May 2020**: LI searched for vulnerabilities in network of California diagnostics company publicly known to be involved in development of COVID-19 testing kits
  - **June 2020**: reconnaissance on network of a Massachusetts biotech firm focused on cancer treatment (possibly also involved in COVID-19 vaccine development)

Targeted Industries

Healthcare

Biotechnology

Biomedical

Pharmaceutical

COVID-19 research & vaccine development

July 2020: Indictment of Two MSS-Affiliated Hackers

WANTED
BY THE FBI

CHINA MSS GUANGDONG STATE SECURITY DEPARTMENT HACKERS

Unauthorized Access; Conspiracy to Access Without Authorization and Damage Computers; Conspiracy to Commit Theft of Trade Secrets; Conspiracy to Commit Wire Fraud; Aggravated Identity Theft

Li Xiaoyu

Dong Jiazhi

CAUTION

On July 7, 2020, a grand jury in the United States District Court for the Eastern District of Washington indicted Li Xiaoyu and Dong Jiazhi for their alleged participation in a long-running campaign of computer network operations targeting the networks of United States and foreign companies across a wide variety of industries, including high tech manufacturing; civil, heavy, and medical device engineering; business, educational, and gaming software; solar energy; pharmaceuticals; and defense. The indictment highlighted Li and Dong's alleged actions, including a recent focus on COVID-19 research, testing, and treatment; the targeting of political dissidents, religious minorities, and human rights advocates in mainland China, Hong Kong, the United States, and Canada; and the intrusions into corporate networks of countries in Europe and Asia.

Some of Li and Dong's network operations were allegedly undertaken for their own economic benefits, while others were allegedly for the benefits of China's Ministry of State Security (MSS), including the Guangdong State Security Department.

If you have any information concerning these individuals, please contact your local FBI office, or the nearest American Embassy or Consulate.

Field Office: Seattle

www.fbi.gov

Wanted poster for Li Xiaoyu and Dong Jiazhi.
Image source: FBI

Exploited Vulnerabilities

CVE Number	Affected Product	Vulnerability Type
CVE-2019-11510 (CRITICAL)	Pulse Secure VPN	Arbitrary file reading vulnerability which can lead to exposure of keys or passwords
CVE-2020-5902 (CRITICAL)	F5 BIG-IP proxy / load balancer devices TMUI	Remote code execution vulnerability in undisclosed pages
CVE-2019-19781 (CRITICAL)	Citrix ADC Citrix Gateway	Directory traversal which can lead to remote code execution without credentials
CVE-2020-8193 CVE-2020-8195 CVE-2020-8196 (MEDIUM)	Citrix ADC Citrix Gateway Citrix SDWAN WAN-OP	Improper access control and input validation which allows unauthenticated access to certain URL endpoints and information disclosure to low-privileged users
CVE-2019-0708 (CRITICAL)	Microsoft Windows11 XP - 7, Microsoft Windows Server12 2003 - 2008.	Remote code execution vulnerability in Remote Desktop Services
CVE-2020-15505 (CRITICAL)	MobileIron mobile device management (MDM)	Remote code execution vulnerability which allows attackers to execute arbitrary code from unspecified vectors

Exploited Vulnerabilities (cont.)

CVE Number	Affected Product	Vulnerability Type
CVE-2020-1350 (CRITICAL)	Microsoft Windows Server 2008 - 2019	A remote code execution vulnerability exists in Windows® Domain Name System servers when they fail to properly handle requests.
CVE-2020-1472 (CRITICAL)	Microsoft Windows Server 2008 – 2019	An elevation of privilege vulnerability exists when an attacker establishes a vulnerable Netlogon secure channel connection to a domain controller, using the Netlogon Remote Protocol (MS-NRPC), aka 'Netlogon Elevation of Privilege Vulnerability'.
CVE-2019-1040 (MEDIUM)	Microsoft Windows 7 - 10, Microsoft Windows Server 2008 - 2019	A tampering vulnerability exists in Microsoft Windows® when a man-in-the-middle attacker is able to successfully bypass the NTLM MIC (Message Integrity Check) protection.
CVE-2018-6789 (CRITICAL)	Exim before 4.90.1.	Sending a handcrafted message to Exim mail transfer agent may cause a buffer overflow. This can be used to execute code remotely.
CVE-2020-0688 (HIGH)	Microsoft Exchange Server	A Microsoft Exchange validation key remote code execution vulnerability exists when the software fails to properly handle objects in memory.
CVE-2020-8515 (CRITICAL)	DrayTek Vigor	DrayTek Vigor devices allow remote code execution as root (without authentication) via shell metacharacters.

Exploited Vulnerabilities (cont.)

CVE Number	Affected Product	Vulnerability Type
CVE-2018-4939 (CRITICAL)	Adobe ColdFusion	Certain Adobe ColdFusion®14 versions have an exploitable Deserialization of Untrusted Data vulnerability. Successful exploitation could lead to arbitrary code execution.
CVE-2015-4852 (N/A)	Oracle WebLogic Server	The WLS Security component in Oracle WebLogic15 Server allows remote attackers to execute arbitrary commands via a crafted serialized Java16 object.
CVE-2020-2555 (HIGH)	Oracle Coherence	A vulnerability exists in the Oracle Coherence product of Oracle Fusion Middleware. This easily exploitable vulnerability allows unauthenticated attacker with network access via T3 to compromise Oracle Coherence.
CVE-2019-3396 (CRITICAL)	Atlassian Confluence	The Widget Connector macro in Atlassian Confluence17 Server allows remote attackers to achieve path traversal and remote code execution on a Confluence Server or Data Center instance via server-side template injection.
CVE-2019-11580 (CRITICAL)	Atlassian Crowd	Attackers who can send requests to an Atlassian Crowd or Crowd Data Center instance can exploit this vulnerability to install arbitrary plugins, which permits remote code execution.
CVE-2020-10189 (CRITICAL)	Zoho ManageEngine Desktop Central	Zoho ManageEngine®18 Desktop Central allows remote code execution because of deserialization of untrusted data.

Exploited Vulnerabilities (cont.)

CVE Number	Affected Product	Vulnerability Type
CVE-2019-18935 (CRITICAL)	Progress Telerik UI	Progress Telerik®19 UI for ASP.NET AJAX contains a .NET deserialization vulnerability. Exploitation can result in remote code execution.
CVE-2020-0601 (HIGH)	Microsoft Windows 10, Server 2016 - 2019.	A spoofing vulnerability exists in the way Windows® CryptoAPI (Crypt32.dll) validates Elliptic Curve Cryptography (ECC) certificates. An attacker could exploit the vulnerability by using a spoofed code-signing certificate to sign a malicious executable, making it appear that the file was from a trusted, legitimate source.
CVE-2019-0803 (HIGH)	Microsoft Windows 7 - 10, Microsoft Windows Server 2008 - 2019.	An elevation of privilege vulnerability exists in Windows® when the Win32k component fails to properly handle objects in memory.
CVE-2017-6327 (HIGH)	Symantec Messaging Gateway	The Symantec Messaging Gateway can encounter a remote code execution issue.
CVE-2020-3118 (HIGH)	Cisco IOS XR	A vulnerability in the Cisco® Discovery Protocol implementation for Cisco IOS®23 XR Software could allow an unauthenticated, adjacent attacker to execute arbitrary code or cause a reload on an affected device.

Patches & Mitigations

- Keep systems and products updated and patched as soon as possible after patches are released.
- Expect that data stolen or modified (including credentials, accounts, and software) before the device was patched will not be alleviated by patching, making password changes and reviews of accounts a good practice.
- Disable external management capabilities and set up an out-of-band management network.
- Block obsolete or unused protocols at the network edge and disable them in device configurations.
- Isolate Internet-facing services in a network Demilitarized Zone (DMZ) to reduce the exposure of the internal network.
- Enable robust logging of Internet-facing services and monitor the logs for signs of compromise.
- Additional mitigations specific to each vulnerability provided in NSA Cybersecurity Advisory Oct 2020
- Health Industry Cybersecurity Practices, Cybersecurity Act of 2015, Section 405(d) guidance

Outlook

- Cyber threat activity unlikely to subside even after COVID-19
- Continue to exploit known vulnerabilities in common products for remote access and external web services
- Possibility that Chinese APT actors not traditionally focused on healthcare sector shift targeting to adapt to national priorities
- Multiple Chinese APT groups may attempt to compromise the same target(s)
- While there has been much attention on ransomware and Eastern European threat actors targeting the US HPH sector lately, the Chinese threat has not gone away
- If critical vulnerabilities remain unpatched, cyber threat actors can carry out attacks without the need to develop custom malware and exploits or use previously unknown vulnerabilities to target a network

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NATO PARLIAMENTARY ASSEMBLY

POLITICAL COMMITTEE (PC)

THE RISE OF CHINA: IMPLICATIONS FOR GLOBAL AND EURO-ATLANTIC SECURITY

General Report

Gerald E. CONNOLLY (United States)
General Rapporteur

036 PC 20 E rev.2 fin | Original: English | 20 November 2020

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I. INTRODUCTION

1. The rapid rise of the People's Republic of China (henceforth China) in the last part of the 20th century and early decades of the 21st century represents a paradigm shift in global affairs comparable in magnitude to the collapse of the Soviet Union.

2. The confrontation between China and the Euro-Atlantic community is neither desirable nor inevitable, while a failure by NATO to account for China and manage the challenges it presents could make confrontation over time more likely. Indeed, it would be irresponsible for Euro-Atlantic nations and institutions to further delay the revision of their strategies and capabilities in the light of the profound changes prompted by the growing assertiveness of the world's most populous country, second largest economy and defence spender as well as a growing global technology leader, guided by an ideology and approach that rejects liberal democratic values on which the Alliance was founded. China's controversial handling of the COVID-19 outbreak has magnified further the urgency of the China challenge for the Euro-Atlantic community.

3. As NATO Secretary General Jens Stoltenberg stated at the unveiling of the *NATO 2030* initiative in June 2020, "The rise of China is fundamentally shifting the global balance of power, heating up the race for economic and technological supremacy, multiplying the threat to open societies and individual freedoms, and increasing the competition over our values and our way of life." Adapting to this new balance of power is one of the key themes of the *NATO 2030* reflection process.

4. The rise of China will inevitably have – and is already having – consequences for Euro-Atlantic security. At their meeting in London in December 2019, NATO leaders included – for the first time – a reference to China in their joint declaration, noting that "China's growing influence and international policies present both opportunities and challenges that we need to address together as an Alliance." This is a significant change of policy and consistent with a recommendation made in the Political Committee's 2019 report on *NATO at 70*. While NATO's links with China date back to the early 2000s, they were limited to coordinating activities in the Asia-Pacific, a geographic area where NATO's involvement is only of an ad hoc character.

5. As NATO Secretary General Jens Stoltenberg stressed at the London meeting, this overdue acknowledgement of China's strategic heft was prompted not by NATO's intention to move into the South China Sea, but by the fact that China is increasing its influence and expanding its activities in the Euro-Atlantic area. China is investing in emerging technologies and state-of-the-art military capabilities including more survivable and mobile intercontinental nuclear missiles capable of reaching North America and Europe (NATO, 12 November 2019), engaging in cyber espionage against NATO countries and domestic industries, crushing democracy in Hong Kong in violation of a UK-China treaty, establishing footholds in Africa and in the Arctic, managing a competing infrastructure bank, building islands in areas of the South China Sea contested by its neighbours, some of which are US allies or major partners, and advancing a development initiative that encompasses more than 100 countries and a combined economic output of more than a quarter of global GDP (French, 2017).

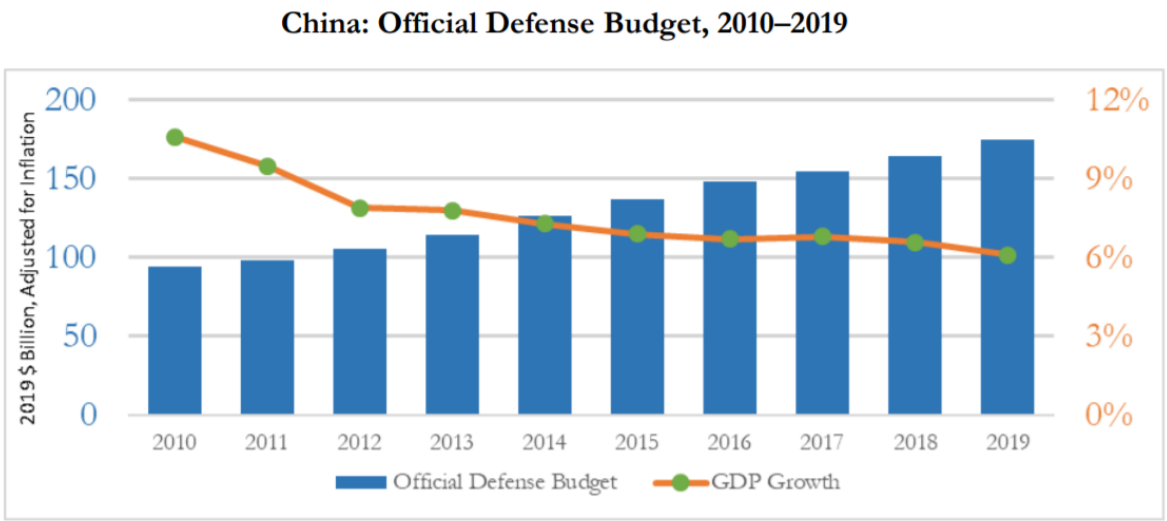
6. The question for NATO is, are we up to countering that challenge or are we going to do what we have historically done as NATO, which is ignore it.

7. This report will assess China's foreign and defence policy toolbox and provide an overview of China's role in regional and global security as well as of China's relations with NATO. The Rapporteur will argue in favour of developing a joint strategy for North America and Europe in addressing the challenge of rising China and protecting the security and values of the transatlantic alliance.

II. CHINA'S FOREIGN AND DEFENCE POLICY TOOLBOX

A. MILITARY EXPANSION AND MODERNISATION

8. It was not until the late 1990s that a serious effort was undertaken to modernise the People's Liberation Army (PLA) and address its capability deficiencies. In 2000, the first US Department of Defense's (DoD) annual report to Congress assessed the PLA as a "mostly archaic military" and noted that it "lacked the capabilities, organization, and readiness for modern warfare" (DoD, 2020). However, between 2000 and 2016, Chinese military spending increased by an average of 10% per year (DIA, 2019), with estimates about its current nominal budget ranging anywhere from the official number of USD 177.5 billion (2019) to USD 261 billion (SIPRI estimate) (CSIS, 2020) – around 2% of total GDP. The rate of defence spending growth has somewhat slowed down in recent years (7.5% growth in 2019, and with budgeted growth of 6.6% for 2020) reflecting the trends in the Chinese economy (Westcott, 2020).

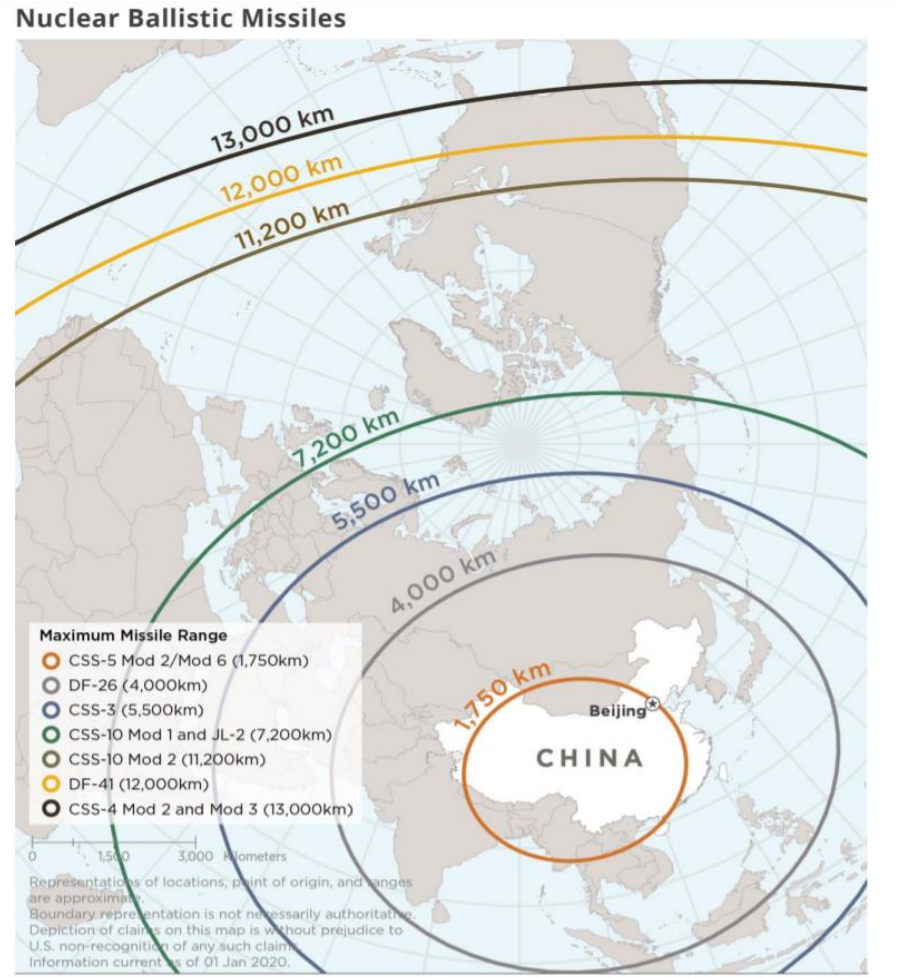


Source: US DoD

9. Under the leadership of Communist Party General Secretary Xi Jinping, the Chinese military is currently undergoing its most comprehensive reforms in at least 30 years. According to Xi's work report to the 19th Party Congress, the PLA must become "a mechanised force, with increased informatised [able to wage an information age war] and strategic capabilities" by 2020, a fully modernised force by 2035 and a world-class military by 2049 (DIA, 2019). The reforms are designed to make the PLA a leaner and a more lethal force capable of joint operations. This has resulted in a major structural and doctrinal reorganisation, including cutting approximately 300,000 personnel and the establishment of five joint theatre commands. The reforms are not only meant to strengthen the PLA but also to strengthen party control over the military. Under the reinforced "CMC (Central Military Commission) Chairman Responsibility System", Xi, who serves as Chairman of the CMC, holds ultimate authority over all military affairs. He has used this power to remove or side-line "potentially disloyal" or corrupt senior PLA officers and promoted those deemed to be politically reliable. Analysts believe that the reforms will probably lead to "significant improvements in the PLA's ability to plan and execute larger and more complex joint operations" (Saunders & Wuthnow, 2019).

10. China is procuring modern military equipment across the board. China is expected to double its nuclear weapon arsenal within a decade and to have roughly 200 warheads on land-based intercontinental ballistic missiles, capable of threatening Europe and North America, within five years (DoD, 2020). China also has a significant intermediate-range missile capability and has so far been reluctant to join an arms control agreement in this area. China is also investing in supersonic cruise missiles, modern drones, and hypersonic weapons (NATO, 14 November 2019). According to the think tank International Institute for Strategic Studies, since 2014, China has procured more

submarines and naval ships than were currently serving in the navies of Germany, India, Spain, Taiwan, and the United Kingdom combined as of 2018. According to the US Department of Defense, China "has the largest navy in the world" with some 350 ships and submarines (DoD, 2020). China's navy, which includes its first domestically built aircraft carrier, *Shandong*, is giving China blue-water capabilities and the ability to conduct sustained operations and project power far from China's periphery. The PLA's expeditionary capabilities are limited but growing. The Chinese air force, which is the largest in Asia and the third-largest in the world, is also adding such advanced platforms as the fifth-generation J-20 stealth fighter (Westcott, 2020).



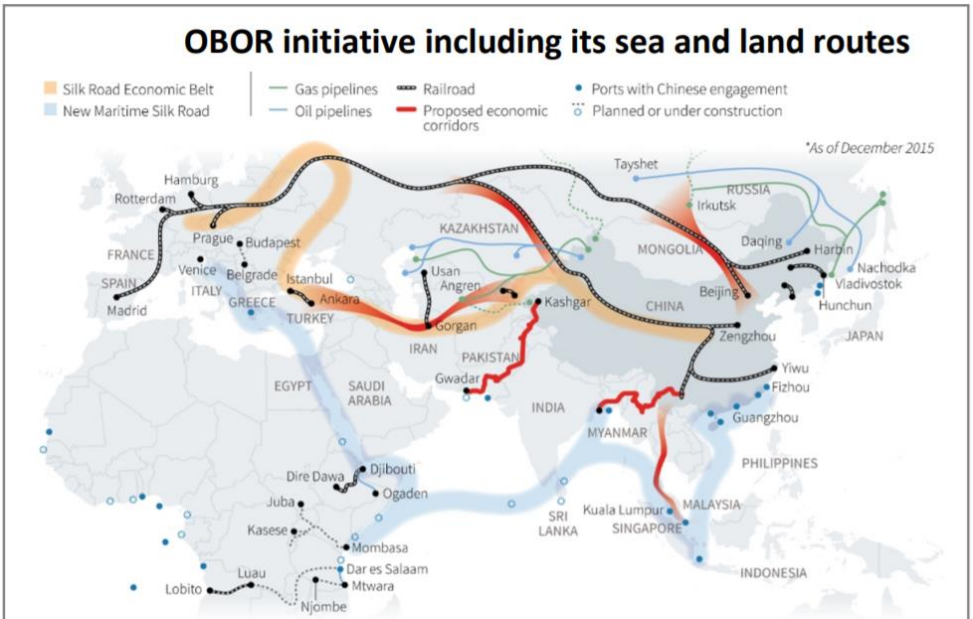
Source: US DoD

11. Another important part of the reforms is the development of the "Military-Civil Fusion" (MCF) doctrine. The MCF seeks to eliminate the barriers between the Chinese civilian and defence economies to ensure that new technologies simultaneously serve both military and economic development (US Department of State, 2020). The primary purpose behind the MCF is to ensure that the PLA can quickly gain advantage of technological advances in the civilian sector, particularly regarding potentially disruptive technologies such as artificial intelligence (AI), drones, and quantum computing. Such technologies are often dual-use. China's integration of civil and military innovation has sharpened the issues around the theft of Western intellectual property, the regulation of dual-use exports, forced technology transfers, intelligence gathering, as well as academic collaboration and exchanges. It is important to note that joint research programmes and commercial ventures between Chinese and Western stakeholders are often exploited to build China's future weapons systems – often without the consent and knowledge of the participating firms or academics (US Department of State, 2020).

12. While there are challenges facing China's military, including lack of combat experience, difficulties achieving "jointness," and pervasive corruption in its ranks, the PLA is on a path to becoming a better organised, more technologically advanced and more flexible force capable of conducting complex missions both at home and abroad (DIA, 2019). Beijing's clear aspiration is to project credible military power around the world. China's global ambitions have been exemplified by the PLA's operations in the Indian Ocean, the Mediterranean, the Arctic region, and the Baltic Sea (Oertel, 2019). Notably, in July 2017, the Chinese navy undertook joint exercises with Russian ships in the Baltic Sea – a region fraught with geopolitical tension between NATO and Russia. This exercise is broadly indicative of China's expanding military capabilities and global role that directly affects the Alliance.

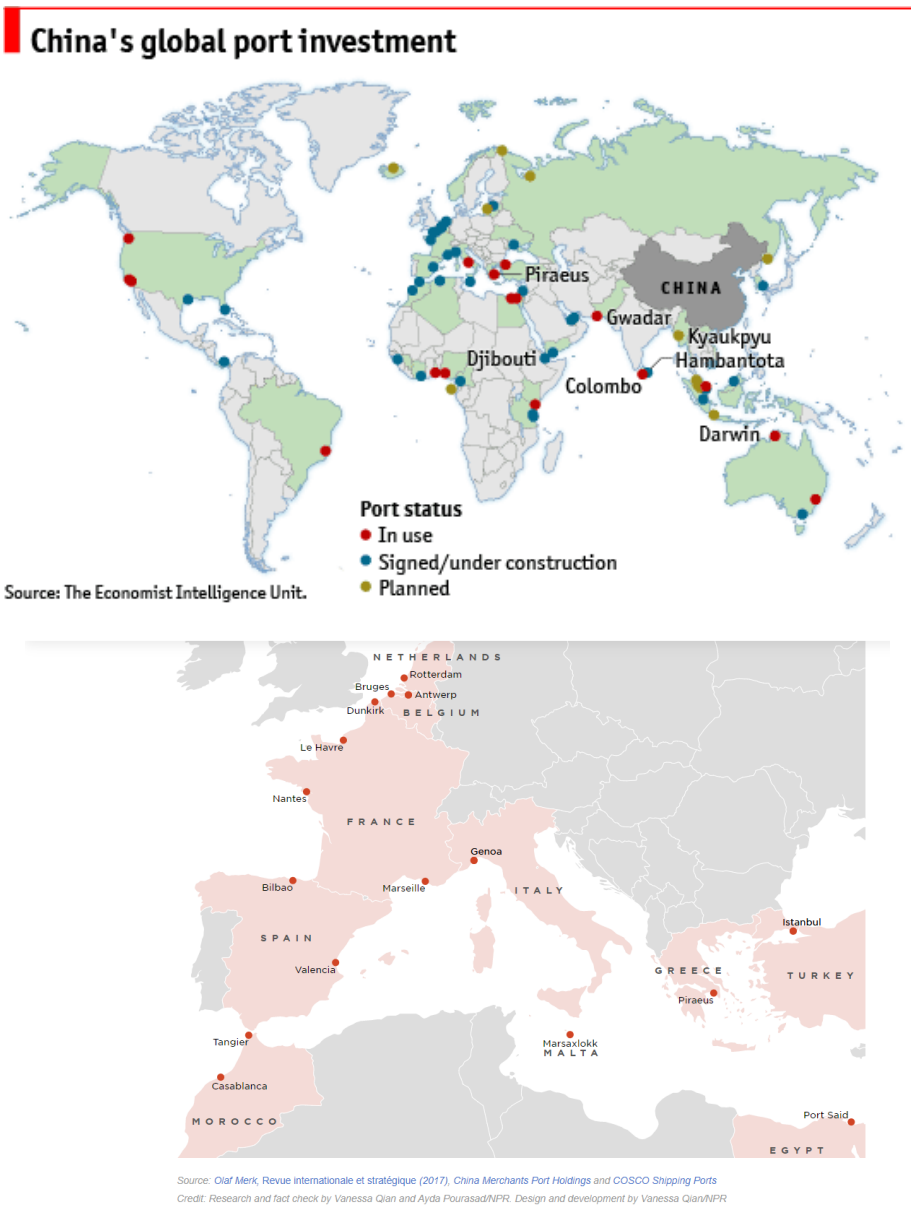
B. ECONOMIC DEVELOPMENT INFLUENCE

13. Over the course of the last four decades, the Chinese economy has undergone the "fastest sustained expansion by a major country in history" (CRS, 2019). China is now the largest trading partner of more than128 nations (Leng & Rajah, 2019) and has become a major source of foreign direct investment (FDI) and infrastructure financing in the world. From 2005-2017, Chinese firms invested USD 324 billion in Europe, which constitutes 31% of China's global outbound FDI (CSIS, January 2020). After the initial shock of the COVID-19 outbreak, the Chinese economy bounced back quickly and, at the time of writing, was widely projected to end the year 2020 with net positive growth, while most of China's economic rivals are mired in recessions. Chinese exports have, in fact, soared in the course of 2020, owing mainly to the fact that Chinese factories specialise in commodities in high demand during the pandemic, ranging from electronics to household goods (Bradsher, 2020). China played a key role in forming a new major regional trade bloc – the Regional Comprehensive Economic Partnership (RCEP). Signed in November 2020 after 8 years of negotiations, RCEP is widely seen as the Chinese-backed response to the United States' Trans-Pacific Partnership (TPP) proposal, scrapped in 2017 by the Trump administration. While RCEP does not envisage ambitious tariff cuts in the immediate future, its sheer size – involving 15 countries in the Asia-Pacific that account for one third of the world's population and almost 30% of global GDP – makes RCEP a significant global factor. Analysts expect RCEP to primarily benefit China, Japan and South Korea. The ratification process is expected to be arduous in some countries that signed the deal (BBC, November 2020).



Source: Straits Times based on Mercator Institute for China Studies (Merics), May 2017.

14. Since 2000, Beijing has been encouraging Chinese companies (particularly state-owned – SOEs) to "go global" in order to secure access to natural resources, but also, increasingly, to make strategic acquisitions, obtain technology and management skills and position to compete in global markets (CRS, 2019). However, it was the launch of what has become known as the Belt and Road Initiative (BRI, previously known as One Belt One Road) in 2013 that focused the world's attention on Chinese investment and overseas infrastructure policy. The BRI seeks to enhance "China's connectivity" with the world by improving physical infrastructure, aligning developmental policy and regulatory standards, and strengthening cultural ties with other countries. By one account, by October 2019, the BRI covered 138 countries that account for about 61% of the world's population (CSIS, 2019). This undertaking is primarily financed by Chinese state banks and government-directed investment funds (88%), and the main recipients tend to be China's SOEs allowing them to offer extremely competitive bids (He, 2019).



Ports in which the Chinese state-owned enterprises COSCO Shipping Ports and China Merchants Port Holdings have acquired stakes (Kakissis, 2018).

15. In addition to deepening China's trade ties, the BRI has the potential to re-orient a large part of the world's economy towards China, which, in turn, would considerably increase China's global leverage. This development can already be observed in Central Asia, Latin America, and Africa, but also in Europe where more and more countries align themselves diplomatically with Beijing in the hope of gaining access to Chinese investments (Bugajski, 2019). Although BRI projects are ostensibly pursued for their economic and development potential, they may also carry political and security implications for host countries. This situation is further exacerbated by the fact that many BRI countries suffer from weak government institutions, political instability, and high corruption, making many BRI projects economically unviable (He, 2019). This has given rise to allegations that China is coercing developing countries into participating in such projects, to gain access to resources and critical infrastructure. From 2012-2017, Chinese firms invested USD 50 billion in the European and North American transportation sectors, a five-fold increase from the preceding five-year period (CSIS, 2020). In the past decade, Chinese companies have acquired stakes in 13 ports in Europe, including in Greece, Spain and, most recently, Belgium; those ports together handle about 10 percent of Europe's shipping container capacity. Investment in ports has been followed by Chinese naval deployments as had been the case the ports of Djibouti, Sri Lanka and Pakistan (Kakissis, 2018). The Hambantota port in Sri Lanka, which your rapporteur visited in February 2017 amid an intense public debate about the future of the port, now serves as the prime example of this so-called "debt-trap diplomacy": in December 2017, the port was taken over by a Chinese SOE via a 99-year lease when the Sri Lankan government could no longer service its debts (Brautigam, 2020). In other cases, BRI countries have strong rules and norms but choose to waive them for China. The US initiative, the Blue Dot Network "aims to promote quality infrastructure investment that is open and inclusive, transparent, economically viable, financially, environmentally, and socially sustainable, and compliant with international standards, laws, and regulations" and is a welcome template for further collaboration with NATO countries to promote alternatives to the BRI. China's investment in and takeover of critical infrastructure and facilities in Europe could decrease NATO allies' willingness to move military forces and sensitive technologies through, for instance, Chinese controlled ports and surrounding networks (Speranza, 2020).

16. Although there are efforts underway to improve the debt sustainability of investments, the BRI in particular and China in general are confronted with a growing backlash due to its heavy-handed approach to foreign direct investment and development (Heydarian, 2019). The BRI is discussed extensively in a concurrent 2020 Economics and Security Committee report: *China's Belt and Road Initiative: a Strategic and Economic Assessment*.

C. ADVANCED TECHNOLOGY LEADERSHIP

17. China aims to become a global leader in strategic emerging technologies such as cyber, AI, and quantum technologies, many of which have current or future potential applications that are likely to be dual-use in nature, that is, having both civilian/commercial and military applications. Xi Jinping has emphasised the need for China to become a "Cyber Superpower" (Creemers, et al., 2018). Cyberspace has become an area of focus for the Chinese military, and the primary public manifestation of Beijing's cyber capabilities has been the growing threat of Chinese cyber espionage. China has long been engaged in industrial espionage to advance its national development objectives in both the military as well as the economic domain, and has deployed cyber capabilities/tools to illicitly acquire proprietary foreign commercial knowhow (FBI, 2020). Although Western countries have repeatedly attempted to dissuade China from continuing this practice[1], Beijing remains undeterred. Even a high-level Sino-American agreement not to engage in commercial cyber espionage as well as multiple similar bilateral agreements with countries such as Germany and Australia resulted in only a temporary reprieve (IISS, May 2019).

18. This prevalence of China's cyber espionage also has implications for the expansion of Chinese technology companies abroad. This has become most notable in the case of the construction of the fifth generation (5G) mobile network. 5G is expected to revolutionise mobile networking, due to its

[1] For instance, in July 2020, the United States ordered the closure of China's consulate in Houston, Texas, accusing Chinese diplomats of aiding economic espionage and stealing scientific research

exponentially faster and more reliable transfer of data, thus facilitating the so-called Internet of Things. However, the issue is not the potentially transformative impact of 5G, but fears that the Chinese company Huawei – one of the leading and also cheapest providers of 5G technology – could install a digital backdoor that leaves networks vulnerable to Chinese-sponsored cyberattacks. Due to the nature of 5G networks, the vulnerability to exploitation is significantly larger than in previous mobile network iterations. The NATO Cooperative Cyber Defence Centre of Excellence asserts that Chinese technology companies are not only "subsidised by the Chinese government but also legally compelled to work with its intelligence services". Both Huawei and its employees have been implicated in multiple cases of fraud, industrial espionage, and sanctions violations (Kaska, Beckvard, et al., 2019). In the developing world, the affordability of Chinese telecommunication investments is difficult to resist: the construction of technological infrastructure has become a key part of the so-called "Digital Silk Road" and is therefore heavily supported by the Chinese government (Kitson & Liew, 2019). Even in the developed world, many governments are reluctant to exclude Huawei from their 5G infrastructure due to affordability as well as implicit or explicit pressure from Beijing (Bennhold & Ewing, 2020). Some countries such as the UK and Germany, however, have recently taken or are considering prudent steps to restrict Chinese companies from accessing their core networks.

19. Furthermore, Beijing also has started using the "Digital Silk Road" as a means to promote its notion of "cyber sovereignty." This includes exporting Beijing's sophisticated digital surveillance model as well as promotion of Chinese-style cyberspace norms such as real-name registration (IISS, May 2019). China's export of digital authoritarianism threatens the promotion of liberal democracy around the world. Additionally, China is ratcheting up its capability to manipulate public opinion abroad through digital means. While these efforts remain relatively crude, Beijing is learning fast (Cook, 2020), and could enhance its reach substantially, especially considering that advances in AI are projected to "supercharge" China's digital manipulation efforts (Harris, 2018). Beijing's attempts to spread disinformation and propaganda to Western audiences have provoked a backlash from the EU. In June 2020, the European Commission explicitly named China, for the first time alongside Russia, as a source of disinformation connected to the COVID-19 pandemic (European Commission, June 2020). The EU's naming of China came at the heels of a public scandal at the European External Action Service (EEAS), which in April had to deny media allegations of toning down its criticism of China's online activity (Apuzzo, 2020).

20. Authoritative commentators such as former US ambassador to NATO, Ivo Daalder, warn that China's work in AI, quantum computing, and robotics will all have "huge implications" for NATO defence (Brennan, 2019). China aims to become "the world's primary AI innovation centre" and develop a domestic AI market worth USD 150 billion by 2030. As the Assembly's 2019 Science and Technology Committee report noted, China is already rapidly closing the gap with the United States in research and application of AI. Low privacy standards compared to North America and Europe, combined with the sheer numerical advantage of the private data collected, provide a key advantage for China in developing new AI algorithms. China is actively pursuing the incorporation of AI technologies into the defence sector – both in terms of new platforms and command and control – and widely using AI for domestic surveillance and social control. In Hong Kong, law enforcement authorities can access AI facial recognition software that matches faces from any video footage to police databases (Schmidt, 2019). Additionally, AI technology has been deployed to persecute the Uyghurs in Xinjiang, and to support the expansive measures to contain the coronavirus. That said, experts also point out that China faces significant gaps in a number of areas, including AI talent, technical standards, software frameworks and platforms, and semiconductor manufacturing capabilities (Allen, 2019).

21. Quantum communication and computing are expected to have a disruptive effect on cybersecurity, such as making obsolete current US military-grade encryption. Conversely, quantum communication offers the prospect of "virtually tamper-proof" communication. Beijing has invested enormous resources in winning what some are already calling the "quantum race" (Whalen, 2019), including committing EUR 9 billion to develop a national quantum laboratory (Grand & Gillis, 2020). As a result, China was the first country to launch a quantum satellite, the first to establish a

long-distance quantum communication link and has almost doubled the number of quantum technology-related patent filings compared to the United States. If Beijing were to succeed in its quest for quantum computing and communication capabilities, China could then force transparency of its adversaries' communication while safeguarding its own (IISS, February 2019). The technology has the potential to create an infinitely asymmetric technology advantage for the first country across the quantum finish line.

D. SOFT POWER AND STATE POLICY

22. Beijing projects soft power via a centrally directed top-down strategy where there is little room for independent input from private actors, let alone civil society. The Chinese government is estimated to be spending billions of dollars each year on its soft power campaign, including heavy investments in Hollywood and the video gaming industry. Among the more traditional tools of its soft power promotion are educational exchanges and the massive expansion of its foreign-language media (Albert, 2018). Beijing has established more than 550 Confucius Institutes worldwide, which are intended to promote Chinese language and culture. However, the soft power appeal of the Confucius Institutes is often overshadowed by consistent allegations that they serve as a platform for party propaganda, the monitoring of Chinese students, and the meddling in the internal politics of their host universities (Smith & Fallon, 2019). These and other efforts aimed at controlling, co-opting or outright silencing ethnic Chinese abroad have, under Xi Jinping, increasingly become the purview of the United Front Work Department (UFWD), which "is responsible for relations with the people of Taiwan, Hong Kong, and Macau, non-Communist groups, and ethnic minorities and Chinese living outside mainland China" (CRS, 2013). China views the outbreak of anti-extradition bill protests in Hong Kong, which has led to sometimes violent confrontations between protesters and the Hong Kong police force, as anti-China and aiming to bring chaos to Hong Kong by calling for self-determination and independence (CRS, 3 August 2020). The Hong Kong Special Administrative Region government and police force have used various Hong Kong laws, including the newly adopted national security law, to arrest people for their political activities, raising questions about the limits of freedom of speech and freedom of the press. Thousands of Hong Kong residents have continued to take to the streets to protest the national security law, postponed elections for a new Legislative Council and suppression of political expression, and in general the erosion of Hong Kong's autonomy and their basic rights (CRS, January and 3 August 2020).

23. Arguably the strongest soft power tool that China possesses is the attractiveness of its economic development model in the developing world. Accordingly, Beijing has focused on turning the BRI into a vehicle for soft-power generation. However, while investments in desperately needed infrastructure are of course welcome in most of the developing world, concerns about debt sustainability, corruption, lack of transparency and little local participation have prevented the BRI from being a decisive positive influence on China's image (SoftPower30, 2019). The same can be said for Beijing's state-directed soft power strategy in general. Despite massive investments, it has yielded mixed results around the world. In Europe, opinion on China is, on balance, negative and this view is shared by most of its neighbours in the Asia-Pacific region and in North America. Conversely, there are either pluralities or outright majorities in Latin America, Sub-Saharan Africa, and almost the entire Middle East that view China favourably (Silver, Devlin, et al., 2019). Overall, China is still only ranked 27th out of a total of 30 assessed countries in the 2019 Portland Soft Power Ranking.

Mixed enthusiasm for China across the world

Favorable views of China

Source: Spring 2018 Global Attitudes Survey. Q17b.

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E. CHINESE INFLUENCE IN GLOBAL GOVERNANCE INSTITUTIONS

24. Beijing has long been engaged in a quiet campaign to raise its profile in international organisations, and, for a long period, this was welcomed in the Western world as part of China becoming a "responsible stakeholder" in the international order. Following the withdrawal of the United States from several UN agencies and the reduction of US funding for UN programs, China has raced to fill this "global governance deficit" by increasing its funding to the UN as well as making a concerted push for leadership posts in the UN. As a result, Chinese nationals are now heading "more than a quarter of the UN Specialized Agencies" (Lee, 2019). The success of this silent campaign was demonstrated by the initial reaction of the World Health Organization (WHO) to the emerging COVID-19 pandemic, when the WHO uncritically endorsed Chinese official positions and ignored warnings from Taiwan, thereby delaying an effective international response (Godement, 2020).

25. This growing influence in the UN has raised fears that China aims to make the international system more comfortable for autocracies. Accordingly, Beijing is no longer content with just "minimising scrutiny of its human rights conduct", it has now moved to promoting its understanding

of fundamental values. For instance, it is using the Human Rights Council as a platform to promote a Chinese understanding of national sovereignty, non-intervention, and state-directed development, while downplaying the significance of individual rights (Maizland, 2019). In fact, China has succeeded in inserting into UN documents Communist Party language such as "win-win cooperation", "community of a shared future for mankind", and "the democratisation of international relations" – lifted verbatim from speeches of Xi Jinping. Moreover, Beijing has used its rising clout to strengthen the international legitimacy of the BRI by enlisting the "full-throated support" of the UN for the initiative (Lee, 2019). Conversely, according to Human Rights Watch, China has used its growing economic leverage to threaten retaliation against any country willing to publicly criticise its human rights record (HRW, 2019). A similar effort is underway to increase China's clout in other international institutions like the G20, the International Monetary Fund, and the World Bank. Where Beijing is prevented from exerting greater influence in existing forums, it sets up rival institutions like the Asian Infrastructure and Investment Bank (AIIB) or the New Development Bank (NDB) (Hart & Johnson, 2019). In sum, if Beijing succeeds in bringing about its vision of global governance, international institutions will become less rules-based and even more state-centric[2].

III. CHINA'S GLOBAL AMBITIONS: GREAT POWER POLITICS WITH CHINESE CHARACTERISTICS?

A. THE KEY TENETS OF XI JINPING'S FOREIGN POLICY PHILOSOPHY

26. In the post-1978 period, Chinese foreign policy was epitomised by Deng Xiaoping's famous dictum of "hide your capability and bide your time." Consequently, the PRC predominantly focused on its economic development, but otherwise tried to keep a low profile internationally. Although this was already changing before Xi Jinping came to power, it is under his watch that China has undergone the most radical departure from Deng's guiding foreign policy principle (Hu, 2018). The Xi doctrine, or "Xi Jinping diplomatic thought", as laid out in his three collected works, is comprised of three major themes, "national rejuvenation", "global community", and "Chinese contribution". Chinese foreign policy frameworks emphasise a win-win collaborative approach to foreign policy but in practice China appears to be more aligned with a realpolitik approach to national power and global politics.

27. The Chinese dream of "*national rejuvenation*" is one of the most frequently invoked phrases of the current Chinese president. It implies that the domestic modernisation of China is supposed to serve as the foundation for turning the country into "a global leader in terms of composite national strength and international influence." This is also framed as the strategy to restore China to its rightful position and finally overcome its perceived century of humiliation. The concept of "*global community*" implies a new form of international relations based on "win-win or mutually beneficial cooperation." In his speech to the 19th Communist Party Congress, Xi also offered to the world "Chinese wisdom and a Chinese approach to solving the problems facing mankind" with special emphasis on providing assistance to developing countries.

28. Chinese officials have frequently reiterated their commitment to the "Five Principles of Peaceful Co-Existence" which, among other things, demands respect for territorial integrity and sovereignty, as well as rejecting aggression and interference in a country's internal affairs. At the same time, they have also emphasised their commitment to the current international order and emphatically rejected the notion of China seeking hegemony. Additionally, Xi has also introduced the concept of a "correct sense of justice," which essentially amounts to the rejection of zero-sum thinking and underscores the pursuit of the common good – even at the expense of China's interests (Kawashima, 2019).

29. However, despite such lofty rhetoric, Beijing's actions seem to speak a very different language. In recent years Beijing's foreign policy has become much more assertive when it comes to defending

[2] For more details on this issue, see the Assembly's 2020 Civil Dimension of Security Committee report: *China and the Liberal Global Order*

an ever-growing list of issues related to its “core interests” by aggressively exploiting its growing economic and military strength. This mismatch between words and deeds is most evident in China’s immediate neighbourhood, but it has also begun to impact its relations with countries around the world (Lin, July 2018).

B. CHINA AND THE UNITED STATES

30. There can be little doubt that the US-China relationship will play a decisive role in shaping the development of the 21st century. Since merely providing a detailed overview of the contentious relationship would go far beyond the scope of this report, the following section will focus on the current state of play in the economic, security, and ideological dimensions of the relationship.

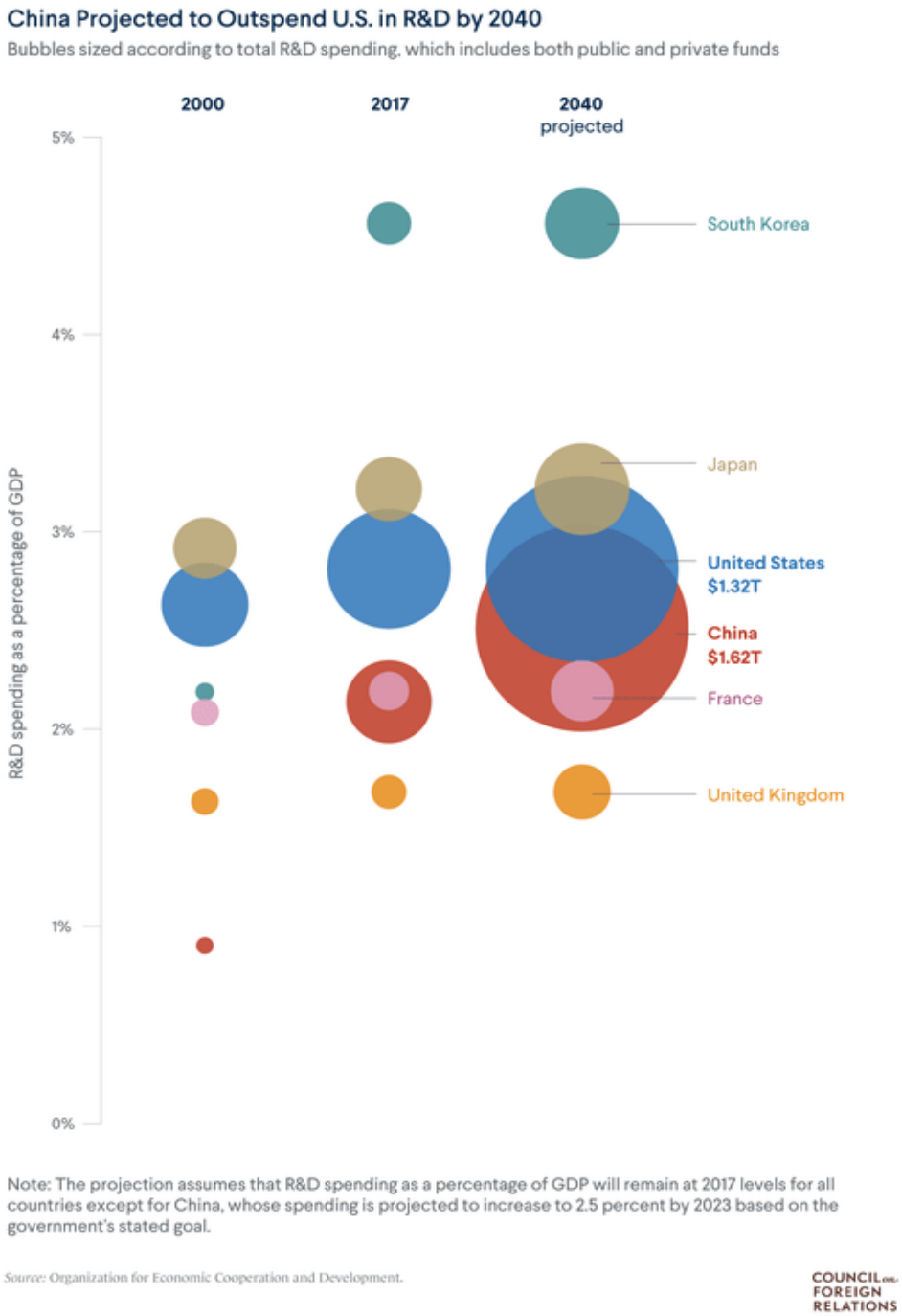
31. In the past, the bilateral relationship was defined by a high degree of economic interdependence, with total trade amounting to USD 737.1 billion in 2018. In 2018, China was the United States’ third largest goods export market and largest source of goods imports (USTR, 2020). The Trump administration has since imposed or threatened tariffs on more than USD 500 billion of Chinese products in what has escalated into a trade war. Consequently, China has gone from the United States’ largest trading partner to its third-largest (Roberts, 2020). Although both sides signed a so-called phase-one trade deal at the beginning of 2020, the agreement did little to address the underlying structural issues that sparked the trade war in the first place. Instead, the core deliverable of the trade deal is a Chinese pledge to buy American goods worth USD 200 billion over the next two years (Chad, 2020), but this does not amount to much more than a temporary truce until a “phase two” trade deal can be negotiated.

32. The growing US-Chinese competition has also begun to spill over into the field of technology. In May 2019, President Trump signed an executive order that could be used to justify the termination of all Information and Communication Technology (ICT) trade and technology transfer with China on national security grounds. This is significant because the *daily* exchange value of financial services between the two countries that depend on a non-combative “global ICT environment” is equivalent to more than nine times the *annual* value of bilateral US-China trade (Austin, 2020). Overall, it could be argued that the United States has engaged in a de facto technological arms race with China, for leadership in emerging technologies such as AI, robotics, quantum, and biotechnologies. One high-visibility issue relates to the ongoing US efforts to persuade its allies and partners about the dangers of adopting Chinese 5G technology and encourages them to exclude the Chinese company Huawei from building their 5G network infrastructure. Additionally, Huawei and other Chinese companies that rely on key US components, have also been affected by export-bans prompting Beijing to intensify its efforts to establish a self-sufficient semiconductor industry (Swanson & McCabe, 2020). Another example of what is often characterised as a US-China tech war is the US decision to ban TikTok and WeChat, two messaging and video-sharing applications. The US administration argued that these companies threaten national security and pass the user data to China.

33. In many ways, framing the relationship between the United States and China as one of clashing ideologies seems almost like a relapse into the rhetoric of the Cold War. Yet, there is undeniably an aspect of systemic rivalry to the relationship even if it is now a competition between Liberal Democracy and Authoritarian Government, rather than Capitalism vs. Communism (Jones, 2020). The fundamental difference between Western and the Chinese Communist Party’s values is exemplified by Beijing’s crackdown on Hong Kong. In response to the crisis, the US administration imposed targeted sanctions against several Chinese and Hong Kong officials in August 2020 (BBC, August 2020). The need to address this and similar challenges posed by China is one of the rare points of bipartisan consensus in the United States (Hass, 2020). For example, both Republican and Democratic lawmakers gave support to a bill granting refugee status to Hong Kong residents, who risk prosecution under the Chinese territory’s new national security law (O’Keeffe, 2020). Conversely, in China, the Communist Party has been successful in fostering Chinese nationalism as a source of legitimacy for global strategic competition.

34. Despite Beijing's efforts to become Washington's near-peer, the United States still retains an advantage that will be very difficult for Beijing to match – namely the US system of alliances. Of the world's 15 largest economies, 10 are firm US allies. NATO's collective military budget exceeds that of every other nation combined. Accordingly, confronting the United States and its allies directly would be "difficult, risky and expensive for China" (Jones, 2020). Nevertheless, this still leaves the option of eroding Washington's influence rather than confronting it. China is actively courting individual NATO and EU members, expanding its role in the developing world, and enhancing its cooperation with Russia.

Projected R&D Investment by 2040



C. RELATIONS WITH RUSSIA: THE DRAGON AND THE BEAR - A NEW AXIS OF AUTHORITARIANS?

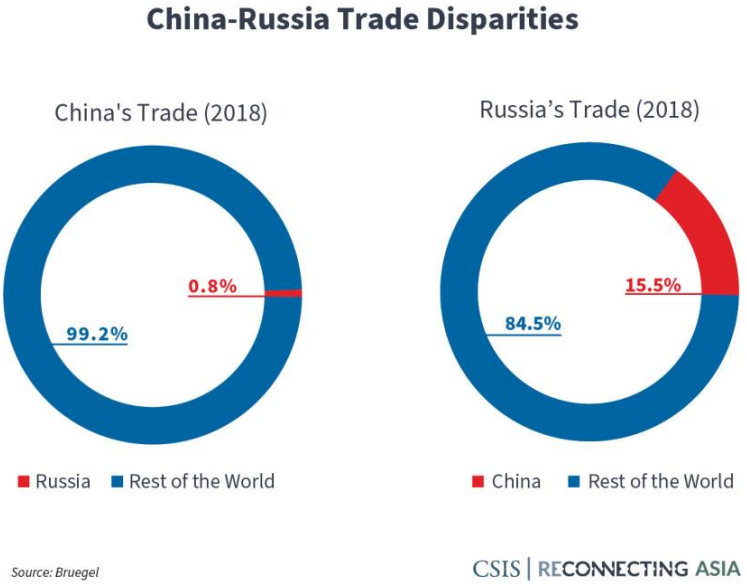
35. The current trajectory of the relationship can primarily be traced back to Russia's forcible and illegal annexation of Crimea in 2014 and military invasion in eastern Ukraine. Having violated a central tenet of the post WWII order and further isolating itself from the West, Moscow has become more closely aligned with Beijing – even at the cost of being the junior partner in the relationship. The Sino-Russian relationship certainly has its benefits: the two countries share an authoritarian system of government, both perceive themselves vulnerable to Western pressure, both engage in cyber and disinformation warfare against the West and both increasingly challenge the liberal international order. While the relationship is not without its sources of friction, even experts that have long been doubtful about the potential of a Sino-Russian partnership are altering their assessment in the face of growing collaboration between the two (USCC, 2019).

36. Military cooperation is arguably the aspect of the relationship with the longest tradition, dating all the way back to before the foundation of the People's Republic of China. Cooperation continued after the end of the Cold War with Russia becoming the sole provider of advanced weapons to China due to the post-1989 Western arms embargo (Stanzel, 2019). As a result, Russia has sold China more than 500 military aircraft, over 200 military helicopters, four destroyers and twelve submarines since 1991. Moreover, since 1991, more than 2,000 intermediate and high-ranking PLA officers have graduated from Russian military schools (Goldstein, 2020). After relatively flat weapon sales prior to 2014, the sale of modern arms once again became a major part of Moscow's strategy of forging closer ties with Beijing (USCC, 2019). Another indicator of the close military relationship is the growing number of joint military exercises, most notably *Vostok-2018* and *Tsentr-2019* (Carlson, 2018). Additionally, there is a longstanding series of China-Russia combined exercises, including the *Joint Sea* series, an annual combined naval exercise that has been conducted in the East and the South China Seas, the Baltic Sea and the Persian Gulf, and the *Peace Mission* series, a combined multilateral exercise between members of the Shanghai Cooperation Organisation, which is de facto led by China and Russia, ongoing since 2005 (Gady, 2019).

37. On the international stage, both Beijing and Moscow seek to constrain Western and especially US influence in international bodies such as the UN, where they have repeatedly cast coordinated vetoes at the Security Council. Moreover, they have also set up several common multilateral institutions such as the Shanghai Cooperation Organisation (SCO) or the BRICS (Brazil, Russia, India, China, and South Africa) grouping. Within these institutions, they emphasise non-interference in domestic affairs, push the notion of a "multipolar order" and insist on respect for the existence of "multiple value systems" specific to other nations and cultures. Arguably, there is even growing convergence when it comes to "norms and values," for instance, they are currently engaging in a coordinated effort to redefine the concept of "terrorism" to also include "activities of political opposition groups or separatist movements." China's recent approach to managing foreign NGOs on its territory also appears to have been copied from Russia. Russia passed a law on foreign agents in 2012 and a law on undesirable organisations in 2015. China followed in 2017 with its Foreign NGO Management Law (Plantan, 2017). Additionally, Moscow and Beijing also tend to share a similar perception of many global diplomatic hotspots such as Iran, Syria, Venezuela, and particularly regarding North Korea where they have even adopted multiple "joint positions." Nevertheless, neither country is interested in being dragged into the other's territorial disputes, and each generally refrains from taking a firm position on the other's territorial claims (USCC, 2019). Additionally, Russia has also been keen to foster closer engagement with several Asian countries that have strained relations with China like South Korea, Japan, India, and Vietnam – with the latter two also being important customers for Russian arms (Perović & Zogg, 2019).

38. It is in their economic relationship that collaboration, but also the growing power disparity between Russia and China, is most obvious. China has been Russia's largest trading partner since 2008 with bilateral trade rising to USD 107 billion in 2018 (Elmer, 2019). Conversely, Russia is not even in the top ten of China's trading partners, with less than 2% of Chinese exports going there. Russia provides China mainly with hydrocarbons and other raw materials, whereas China mainly

exports industrial and consumer goods to Russia. Accordingly, Chinese companies supply half of all Russian oil drilling equipment and already own 20% of Russia's liquified natural gas projects in the Arctic (Perović & Zogg, 2019). Additionally, in 2014, Beijing leveraged Moscow's weak international position into a very favourable deal on the Power of Siberia natural gas pipeline including a cheap price and partial ownership of the pipeline infrastructure (Tanas, Shiryaevskaya, et al., 2019).



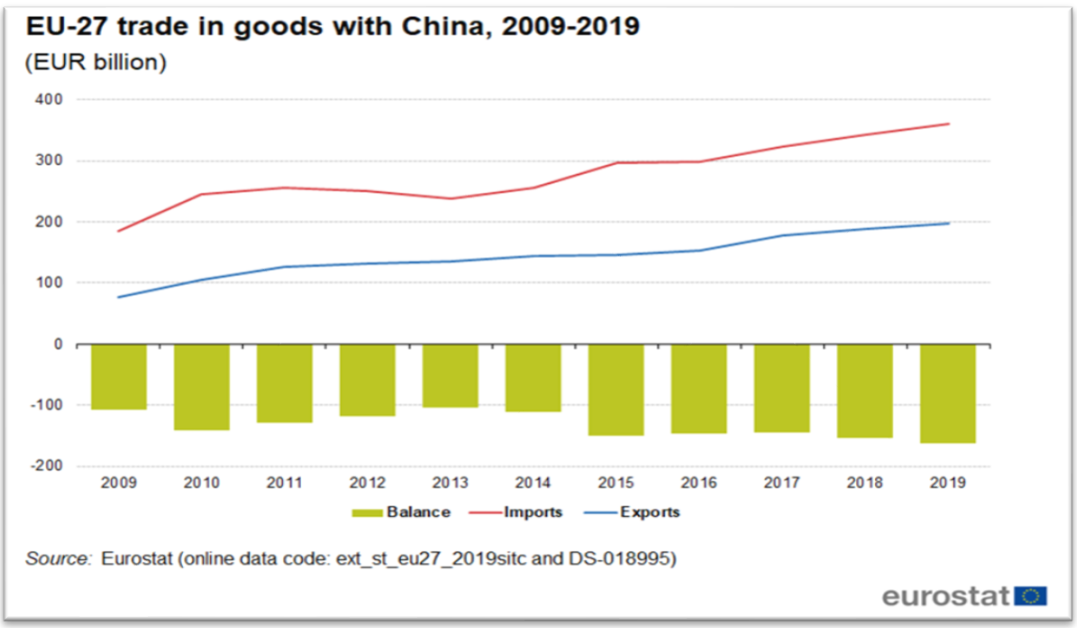
39. A particularly delicate part of the economic relationship concerns the emerging shape of the BRI in Central Asia. Although Xi and Putin have formally linked the Russian-led Eurasian Economic Union and the Chinese initiative, Russia currently only receives a very minor part of BRI investments. Primary BRI infrastructure corridors will increase China's access to Central Asian natural resources, as well as its influence in a region that Moscow has long considered its exclusive sphere of interest (Stent, 2020). Russia has long-standing cultural, linguistic, and military ties to the region and especially to the former Soviet states. Considering Russian sensibilities, Beijing has generally displayed deference for Moscow's preeminent position in the region. Thus has resulted something like a functional division of labour with China responsible for economic development and Russia remaining the region's security partner of choice (Perović & Zogg, 2019).

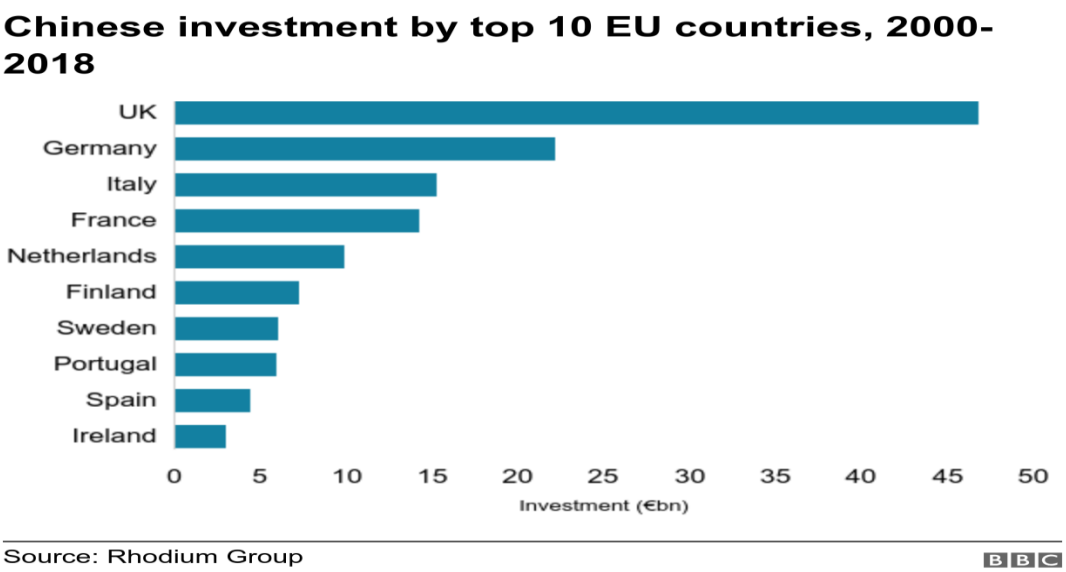
40. In sum, the probability of a full-blown alliance between Moscow and Beijing is not high. Nevertheless, both remain committed to a "Post-Western" world order – even if that vision differs significantly in practice. On the other hand, despite the power asymmetry and frictions in the relationship, it is also unlikely that there will be a repetition of the Sino-Soviet split.

D. RELATIONS WITH THE EU

41. In its 2019 EU-China Strategic Outlook, the European Commission describes China as simultaneously being "a cooperation partner," and an "economic competitor," and increasingly a "systemic rival promoting alternative models of governance." However, the perception of China within the European institutions is increasingly shaped by the COVID-19 pandemic and mainland China's crackdown on Hong Kong. The 22nd EU-China summit in June 2020 (conducted online) brought little practical results and instead exposed widening differences between China and the EU. In July 2020, the EU's High Representative for Foreign and Security Policy Josep Borrell referred to China as a "communist country with an authoritarian regime," which is claiming the status of a world power. High Representative Borrell added that "the West was naïve with regard to China; [the West] thought that with increasing trade there would be change" (EEAS, 2020). The latter statement stood in contrast with the Western thinking of the 1990s and 2000s, whereby China's integration into the West-sponsored multilateral system would moderate Beijing's behaviour (Binnendijk, Kirchberger, Skaluba, 2020).

42. Even if there is some disillusionment with Beijing within the European institutions, the trade and economic linkages between the EU and China are enormous. In 2018, bilateral trade amounted to about EUR 682 billion, making China the EU's second-biggest trading partner after the United States. Conversely, the EU is already China's largest trading partner (European Commission, 2020). Chinese FDI still represents only a small fraction of the total foreign investments in the EU, but the strategic nature of China's investments in Europe has generated concern in Europe. Furthermore, over the years, frustration in Europe has been building over China's distorting economic practices at home and abroad, unequal market access, and forced technology transfer. Therefore, it is now European business associations and lobbies, formerly the biggest advocates of economic engagement, that are leading the charge for new EU-level capabilities to ensure protection from China's unfair trade practices (BusinessEurope, 2020). There is also concern in Europe that the phase one agreement between the United States and China is trade diversionary instead of trade enhancing and China has traditionally sought to play the United States and EU against one another.





43. Beyond just toughening its language, the EU has or is about to adopt a number of new tools and measures aimed at China. These measures include contributing to the establishment and/or strengthening of national foreign investment screening mechanisms to examine potential national security risks posed by certain foreign investments. There is also the so-called EU toolbox on 5G that establishes a framework and set of best practices to evaluate potential risks to European 5G networks. Under the new screening mechanism, some member states are establishing or expanding the ability to review foreign investments in critical economic areas such as energy, ports, airports, and communication networks for potential national security risks. The European Commission will then be able to request information and issue a non-binding recommendation (Hanemann, Huotari, et al., 2019). Although the new mechanism will set up minimum standards for national screening, it does not fully harmonise existing measures. Similarly, the EU toolbox on 5G provides a list of recommendations and measures for member states to ensure the integrity of their 5G networks across the EU (European Commission, 2020). Even though both of these new tools will provide for a more coordinated EU approach, it will still be up to the individual member states to make the final decision (European Parliament, 2020).

44. From the very beginning, the Brussels approach to the BRI has been cautious and so far, the EU has refused to explicitly endorse the project. Yet, almost half of the member states have endorsed it, including most notably Greece, Hungary, and Italy. From Brussels' perspective, the "17+1" initiative, which brings together 17 Central and Eastern European countries (12 EU members) and China, is even more problematic. To many in Western Europe especially, Beijing's activities in Europe are seen as an attempt to drive a wedge between the EU and Eurosceptic governments (Griffiths, 2019). Indeed, some EU members that are part of the Chinese initiatives have repeatedly blocked strong statements on Beijing's human rights violations or its transgressions in the South China Sea (Szczudlik, 2019). As one European China expert put it, "Beijing has had difficulties dealing with the EU in numerous sectors for a variety of reasons, and the incentive to try to weaken the EU's capacity to act in a concerted, unified way, is strong" (Griffiths, 2019).

E. CHINA AND THE ARCTIC: DOES THE DRAGON LOOK NORTH?

45. China's geostrategic presence in the Arctic has expanded substantially in recent years. According to its 2018 White Paper on the Arctic, China considers itself to be a "Near-Arctic State." Given that Beijing is further from the North Pole than Berlin, China's self-designation is controversial. However, it is indicative of the political, economic, and security importance the great powers have attached to the Arctic (Dams, van Schaik, Stoetman, 2020). Beijing's ambitions in the northernmost region are clearly a long-term strategic issue, which threatens to exasperate the tensions between China, Russia, and the Arctic NATO Allies. To a large extent, China's Arctic strategy is a response to climate change, with the melting ice in the Arctic potentially opening up shorter shipping routes connecting the Pacific with the Atlantic as well as making the exploitation of the region's vast natural resources commercially viable - as already laid out in the Political Committee's 2017 report on the Arctic, *NATO and Security in the Arctic*. While the melting Arctic ice has led to heightened Chinese commercial interest, Beijing could also be motivated by the geostrategic value of the Arctic region. Unsurprisingly, there are fears that Chinese military activity could creep into the Arctic, thus undermining the Alliance's capacity to operate in a highly sensitive region (Barnard, 2020). In May 2019, the US Secretary of State warned against the possibility that the Arctic Ocean is transformed "into a new South China Sea, fraught with militarisation and competing territorial claims" (The Guardian, 2019). To prevent such a disruption, the NATO community must consider action-oriented responses to China's activities in the Arctic.

46. Despite its self-serving motives, Beijing attempts to signal benign intentions in the region through substantial investments in civilian scientific research and participating in Arctic governance, which resulted in its accession to permanent observer status on the Arctic Council in 2013. However, as an observer, China's influence remains fairly limited within the institution. Instead, it has concentrated on building-up its bilateral diplomatic and economic relationships with Arctic nations, including NATO allies. For instance, as part of the so-called "Polar Silk Road," China has focused on investments in Russia and Finland, but also Greenland (an autonomous territory within NATO

member Denmark) and another NATO Ally Iceland (Chun, 2020). The last two are also notable because Chinese investment represents a substantial percentage of their respective annual economic output. This economic dependence makes it naturally more difficult for these countries to resist Chinese efforts to construct dual-use infrastructure in strategic locations. There have already been several attempts to buy or build naval infrastructure or airports – including a bid to buy a former US naval base "suitable for surface ships and even submarines" (Auerswald, 2019). US-Denmark cooperation on financial and diplomatic initiatives in Greenland offers a useful template for further collaboration among allies to counter China's influence in the Arctic (RFE/RL, 2020).

47. Chinese scientific projects such as multiple research stations, including the Yellow River Station in Ny-Ålesund, have increased China's footprint in the Arctic. Navigational and satellite surveillance efforts in the region have a dual-use character (Havnes & Seland, 2019), prompting the US DoD to warn that "civilian research could support a strengthened Chinese military presence in the Arctic Ocean, which could include deploying submarines to the region as a deterrent against nuclear attacks" (DoD, 2019). Currently, there is little indication of Chinese military presence or activity in the region. Nevertheless, in Chinese (language) publications, the Arctic has been identified as a key area of future great power competition and therefore the PLA has made studying the military significance of the region a priority (Sørensen, 2019). The 2019 US Arctic Strategy Report expressed concern about the prospect of growing Sino-Russian collaboration in the Arctic. China and Russia have indeed strengthened their cooperation in the region, particularly within the framework of the Polar Silk Road, but Moscow remains wary of being marginalised in what it still perceives as its own backyard (USCC, 2019).

F. CHINA AND THE CORONAVIRUS CRISIS: THE BATTLE OF NARRATIVES AND IMPLICATIONS FOR GLOBAL SECURITY

48. When the scale of the coronavirus epidemic in China first became obvious, many analysts believed that the virus would deal a serious blow to both the legitimacy of Communist Party rule and China's standing in the world. After all, Beijing botched its initial response to the outbreak: first covering up evidence of the new disease, then downplaying its severity – thereby likely exacerbating the global impact of the virus – and only belatedly admitting the gravity of the situation (Liu, 2020). After the government's early missteps, Xi Jinping instituted a highly aggressive – even draconian – approach to contain the spread of the virus. At the same time, Beijing also launched an unprecedented propaganda effort aimed at domestic and foreign audiences.

49. Just as COVID-19 cases started spiking in Europe and the United States, China proclaimed its victory over the virus with the official number of new cases dropping into the single digits. Accordingly, Beijing wasted no time in launching a steady barrage of public messages, tweets, and propaganda articles in a variety of different languages to highlight China's achievements, emphasising the effectiveness of its governance model and claiming the mantle of global leadership in the fight against what had by then become a global pandemic. While the United States demonstrated leadership in 2014-15, assembling an international coalition to tackle the Ebola outbreak, this leadership – or at least closer coordination with European allies – was lacking in the case of coronavirus. Instead, China partially filled the leadership vacuum by launching a series of online meetings and conferences with members of the "17+1" format, the Shanghai Cooperation Organisation and other regional groupings in Asia and Africa.

50. At the time of writing of this report, it is unclear how China's early lack of transparency about the coronavirus outbreak in Wuhan will affect China's world standing, especially as the pandemic touches every corner of the globe and is only increasing in intensity. However, the crisis has already exposed several structural issues that could benefit from further collaboration between the United States and Europe – addressing a disproportionate reliance on pharmaceutical manufacturing in China, maintaining American and European pre-eminence in medical equipment and pharmaceutical research and development, and further incorporating global health into national security operations and planning, to name a few.

IV. CHINA AS A REGIONAL PLAYER

A. UNDERSTANDING THE CHINA-NORTH KOREA RELATIONSHIP

51. The China-North Korea relationship is described by the countries' respective leaders as "immortal and invincible" or "worth more than all the gold in the world." However, the relationship is more accurately described as it was in the Political Committee's 2018 report, *North Korea's Challenge to International Security: Implications for NATO* – "In the case of North Korea, the People's Republic of China (PRC) has a wolf by the ear, and it can neither hold him, nor safely let him go". It is undeniable that without Mao's intervention in the Korean war (1950-1953), there would be no North Korea. China is also by far its largest trading partner, with about 80% of its trade going to or through China, and for the longest time virtually its only diplomatic partner (Zhang, 2018). But Pyongyang's pursuit of nuclear weapons is not just a threat to its adversaries like the United States, but also to a certain degree China.

52. Beijing's North Korea policy is characterised by what Chinese officials call the three noes, "no war, no instability, and no nuclear weapons." In practice, this order also denotes the significance ascribed to each priority (USIP, 2019). North Korea serves as a buffer between the democratic South Korea, which hosts about 28,500 US troops, and China. A collapse of the Kim regime would not only create instability on China's border but could also bring a US ally and even the US military to its very border. Accordingly, while Beijing would prefer for North Korea to remain a non-nuclear power, its greatest fear is the collapse of the regime. For this reason, the Chinese government has long been reluctant to exert strong pressure on Pyongyang or fully enforce international sanctions (Albert, 2019). This changed when, after a series of nuclear and missile tests in 2016-2017, relations between North Korea and the United States deteriorated to the point where a military escalation seemed possible. Although, Chinese officials criticised the Trump administration's rhetoric, Beijing was clearly concerned about North Korea's provocative behaviour which sparked the crisis in the first place (Revere, 2019).

53. As a result, in 2017 Beijing voted in favour of four UNSC resolutions aimed at intensifying economic pressure on North Korea. By itself this would not be particularly remarkable, but what is noteworthy is that China took some steps to enforce these new UNSC sanctions and even cracked down on cross-border smuggling. This enforcement might have been a significant factor in Pyongyang's decision to seek diplomatic rapprochement with South Korea and the United States. However, while China welcomed the de-escalation of US-North Korea tensions, some in Beijing began to fear China would be side-lined in future negotiations if US-North Korea ties continued to warm. Therefore, Beijing launched a major diplomatic campaign to repair its relationship with Pyongyang, which resulted in multiple personal meetings between Xi and Kim Yong Un, but importantly also a significant easing of sanction enforcement (Wertz, 2019).

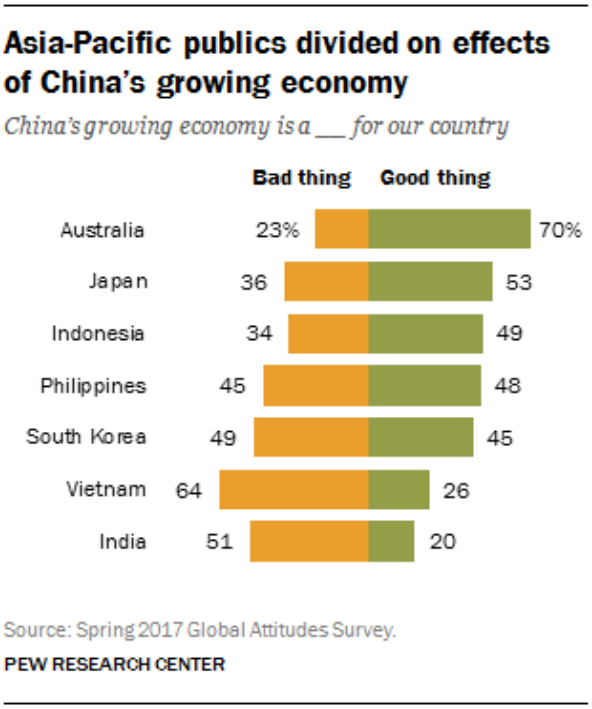
54. The bilateral relationship may not be as harmonious as official statements claim, but it has improved considerably since its most recent nadir in 2017. After all, they still have overlapping goals in the region such as reducing US influence in East Asia, weakening the US-South Korea alliance, and ideally achieving a complete withdrawal of US forces from Korea. The COVID-19 pandemic had a devastating effect on the North Korean economy – albeit the regime officially claims the absence of coronavirus cases in the country – prompting Kim Jong Un's regime to accept an even higher degree of dependence on the Chinese aid (White & Shepherd, 2020).

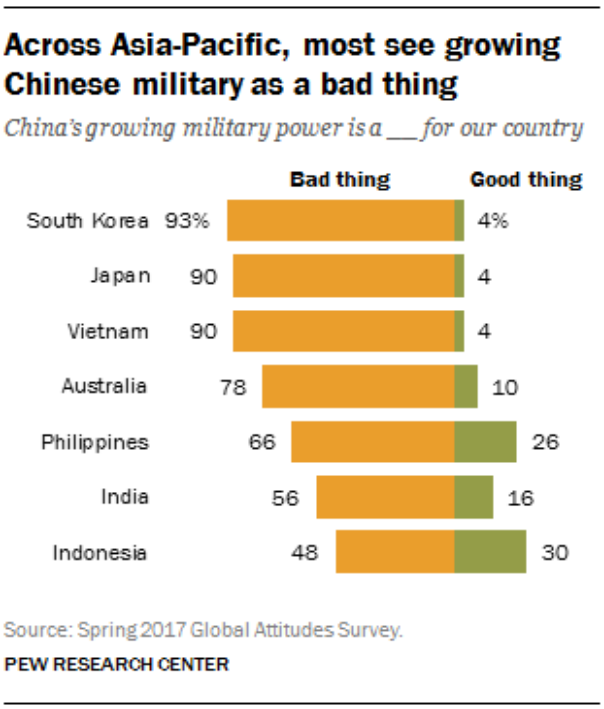
B. TROUBLED WATERS IN SOUTH-EAST ASIA

Source: US DoD

55. The territorial disputes in the South China Sea have become one of the most notable indicators of Beijing's growing assertiveness in its neighbourhood. China is actively building artificial islands in the region that infringe on the territorial claims of Brunei, Malaysia, Taiwan, Vietnam, and the Philippines. With China's island building activities and defiance of international law, the South China Sea has become the most contested body of water in the world. The Sea holds enormous quantities of oil and natural gas, not to mention its importance as fishing grounds. However, its primary strategic importance derives from the fact that many important sea lanes converge here with a third of global shipping passing through the area (CSIS, 10 October 2019). The Philippines, Vietnam, and China have been the states most actively involved in the disputes in recent years. In 2013, Manila initiated an arbitration case against China under the United Nations Convention on the Law of the Sea (UNCLOS). Beijing claims the area within the infamous nine-dash line which covers about 90% of the South China Sea. However, the nature of its claim is left deliberately ambiguous. Although in 2016, the ensuing arbitrational tribunal eventually ruled decisively in favour of the Philippines, in practice Beijing has simply rejected the ruling (Heydarian, 2020), demonstrating a disregard for international law that should concern NATO.

56. International law has become an increasingly marginal aspect of the disputes (Kuok, 2019), as China has moved aggressively to establish facts on the ground. These actions have included creating artificial islands, with Beijing adding more than 3,200 acres of land to the features it claims in the Sea. At the same time, China has also continued to build up its military presence on these newly created islands, building military airfields, berthing areas, and resupply facilities as well as deploying advanced anti-ship and anti-aircraft missile systems (DoD, 2019). The primary purpose of these islands is to serve as bases for China's militarised coast guard and hundreds of ostensibly civilian "maritime militia" vessels (Poling, 2020). These ships harass, pressure, and coerce China's neighbours without the appearance of using military force. Conversely, compliant countries are offered economic assistance, investments, and other incentives. At the same time, Beijing has worked hard to keep the disputes strictly bilateral and has employed divide and conquer tactics to prevent multilateral institutions like ASEAN from taking a unified stance or greater role (Cronin & Neuhard, 2020).





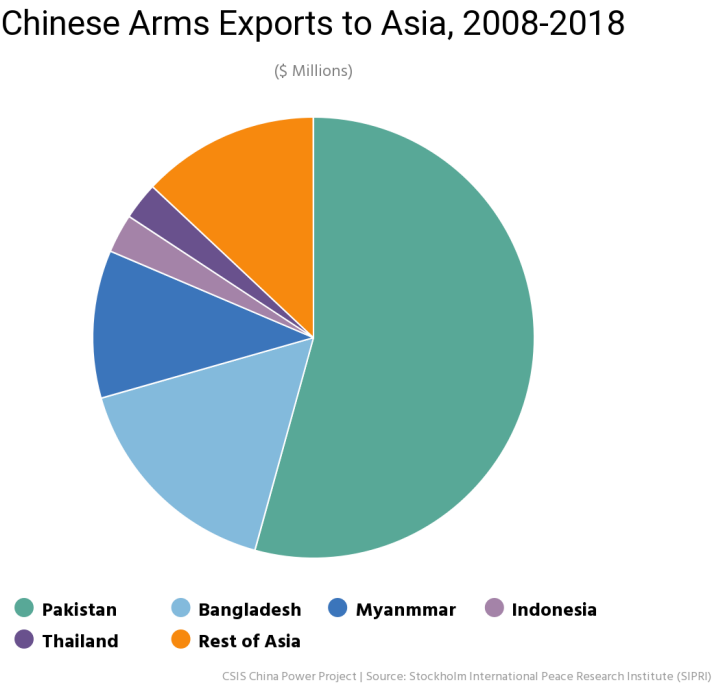
57. Throughout 2020, tensions were also escalating in another regional security hotspot – the decades-long standoff between Beijing and Taipei. Under President Xi Jinping, Beijing assumed a more assertive stance toward Taiwan. The PLA has been periodically flexing its muscles in Taiwan's vicinity, including sending aircraft across the median line between the mainland and the island. In response, the US also stepped up its naval presence in the region, including sending a guided missile destroyer through the Taiwan Strait. The US has also further expanded political dialogue with Taipei and disclosed the Six Assurances provided by President Reagan in 1982. The US continues to take no position on sovereignty over Taiwan, but Washington is now sending a much clearer signal of the US readiness to stand up for Taiwan in the event of a crisis. Neither the US nor China have an interest to start a military conflict over Taiwan, but experts warn that the possibility of an inadvertent incident that could set off a broader conflict cannot be ruled out (Blanchard & Tian, 2020).

C. CHINA'S RELATIONS WITH INDIA

58. Almost four out of every 10 people in the world live in either China or India, and together they account for nearly 30% of world GDP measured on a PPP (Purchasing power parity) basis. Due to this vast scale, it is perhaps unsurprising that the Sino-Indian relationship is defined by a complex mix of competition, outright rivalry, limited hostility, but also collaboration. The most enduring challenge of the bilateral relationship is a dispute over the China-India land border. The two nations went to war over the matter in 1962 and have since engaged in multiple armed stand-offs and occasionally even outright military confrontation. This is not just an issue of historic relevance as demonstrated by the reported deaths of 20 Indian soldiers in June 2020 in the first deadly border clash between Indian and China in 45 years. The recent border clashes prompted both sides to rush military reinforcements closer to the disputed territory and prompted a wave of nationalist sentiments, particularly in India, where the government also chose to ban Chinese phone apps (Gettleman, 2020). Both countries have built up their forces in the area with tanks, artillery, and missile systems. Despite ongoing diplomatic discussions, the possibility of a breakthrough is slim given both countries' refusal to budge from the claim that the other side is responsible for risking the conflict (Kapur, 2020).

59. At a 2018 summit in Wuhan, Chinese President Xi and Indian Prime Minister Modi attempted to turn the tide after Sino-Indian relations worsened during a 2017 standoff over the border dispute, with some success. However, the Asian giants have made little progress on resolving any of the core issues that keep them apart such as their territorial disputes, the Tibet issue, or China's close

relationship to Pakistan (Lidarev, 2020). India's deep misgivings about China's growing economic engagement in South Asia are not primarily due to the fact that the BRI runs counter to India's own connectivity strategy. Instead, New Delhi fears that an economic realignment towards China will invariably be followed by a foreign policy realignment towards Beijing – a realignment that would only benefit China's "all-weather friend" Pakistan (Kumar, June 2019). According to senior Chinese officials, Sino-Pakistani military cooperation constitutes the "backbone" of the relationship, with Pakistan receiving almost 40% of China's total arms exports from 2014-2018 (SIPRI, 2019). And Pakistan is the only country besides China with access to the more precise "military mode" of Beidou, China's position, navigation, and timing system similar to the US GPS (Abi-Habib, 2018).



60. While Indian policymakers appear to realise that they cannot hope to compete with China's economic or military resources, even in an alliance with the West, much of India's military modernisation appears aimed at countering China. However, when it comes to international norms and practices like sovereignty, non-interference, and multipolarity, New Delhi has tended to share Beijing's views rather than those of other democracies. It should also not be forgotten, that despite their bilateral disputes, China and India have continued to cooperate in the BRICS grouping and other formats. Consequently, while NATO members should certainly try to find ways to forge a closer partnership with India, it should not be forgotten that New Delhi has its own agenda and interests that may not necessarily align with that of the West, including concerning crackdowns on human rights and minorities.

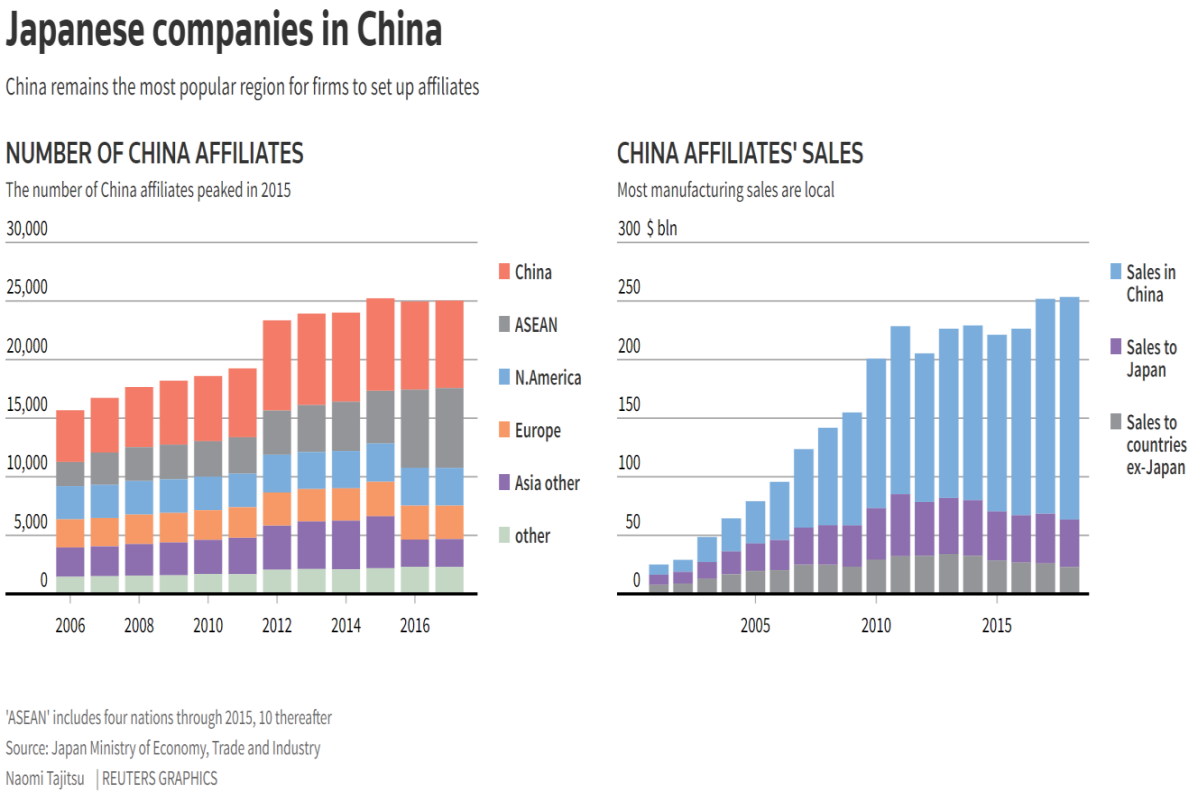
D. CHINA'S RELATIONS WITH JAPAN

61. Historically, the relationship between China and Japan has been afflicted by the unease felt in Tokyo over China's periodic sabre-rattling in the South and East China Seas, the anxiety in Beijing over Japan's partnership with the United States and, above all, China's memories of the atrocities committed by the Japanese in World War II. In terms of military power, Japan has been traditionally vulnerable and depended on American military support. Under Shinzo Abe, Japan steadfastly increased its defence budget and capabilities while purchasing American arms.

62. However, in recent decades, the world's second- and third-largest economies (in terms of GDP) have been periodically looking for ways to improve their bilateral relations. China is Japan's largest trading partner, as well as a major source of people-to-people contacts. Japan's leading firms in the automobile and electronics industries have long relied on China as a production hub and a source

of raw materials and intermediate goods. In 2018, then-Prime Minister Shinzo Abe became the first Japanese leader to visit China in seven years. Abe promised greater political and economic cooperation with Japan's neighbour across the East China sea and extended a reciprocal invitation to his Chinese counterpart Xi Jinping to visit Japan. Originally planned for 2020, Xi Jinping's state visit to Tokyo was postponed because of the COVID-19 pandemic (Rich and Inoue, 2020).

63. Throughout 2020, the nascent rapprochement between China and Japan grew increasingly uncertain. Earlier in the year, Japan's closest partners – particularly the United States – decided on a harsh stance towards Beijing's crackdown in Hong Kong, the expansion of its territorial claims in the South and East China Seas, and its handling of the COVID-19 pandemic. On some controversial issues, Japan abstained from criticising its neighbour. With regards to the Hong Kong events, Tokyo took the middle ground by merely voicing its worries, rather than explicitly denouncing China's crackdown (Nakamura, 2019). In the context of the COVID-19 crisis, both countries exchanged masks, protective gear, and other essential medical supplies. Chinese social media quickly filled with gratitude and praise of the Japanese largesse. That being said, the pandemic magnified Japan's economic and supply chain dependence on China's factories. Between 2008-2018, the number of Japanese manufacturing affiliates in China increased by 60%, reaching at least 7,400 affiliates and selling, in 2018, some USD 252 billion in goods. In June 2020, calling the dependency issue a matter of national security, Japan's policy makers agreed on a USD 2 billion stimulus package designed to shift some manufacturing back to Japan (Reuters, 2020). It remains to be seen whether the thaw in China's relations with Japan will continue. In August 2020, Shinzo Abe resigned, leaving open questions as to the future of China-Japan relations.



V. CHINA AND NATO

64 NATO-China relations were virtually non-existent until the early 2000s. China's growing international profile provided an incentive for opening a political dialogue between NATO and Chinese diplomats in 2003, and later the militaries in 2010. NATO-China relations have never been formalised but there is regular political engagement at multiple levels:

- NATO Secretary General met with Chinese State Counsellor and Minister of Foreign Affairs Wang Yi in margins of the Munich Security Conference in February 2020.
- Since 2017, regular (approximately quarterly) meetings take place between the Deputy Secretary General and the Chinese Ambassador in Brussels. Topics discussed include arms control, disarmament and non-proliferation, North Korea, Afghanistan, and the COVID-19 pandemic. NATO Deputy Secretary Generals have visited China twice – in 2009 and, more recently, in October 2018 when then NATO Deputy Secretary General Rose Gottemoeller attended the 8th Xiangshan Forum and met with senior Chinese officials in Beijing.
- Annual High Level Staff Talks (HLST) occur between NATO and Beijing. There were 7 rounds of these talks between 2003-2013. HLST resumed again in 2019 with the latest taking place in July 2020 (via online platform).
- Regular staff talks between NATO HQ and the Chinese Mission in Brussels.

65. While NATO's engagement with China is primarily political, it is also worth noting that 5 rounds of high-level military talks took place between 2010-2018 to discuss a range of topics including North Korea, the South China Sea, maritime security and counter-piracy, security in Central Asia, and China's defence and military reforms. Military officials outlined an "action list" of possible areas for future cooperation, including participation in courses at the NATO Defense College and the NATO School in Oberammergau[3], NATO participation in courses at China's Defence University, as well as enhancing information exchange between NATO and Chinese naval forces (NATO, 2018). NATO and PLA navies have conducted combined naval drills (Passing Exercise – PASSEX) and have worked to deconflict and coordinate counter-piracy missions in the Gulf of Aden and off the Horn of Africa[4].

66. Beyond this, however, practical cooperation between China and NATO has been negligible. While China appears keen to maintain the abovementioned channels of communication with NATO, it will likely continue to prefer dealing with individual Allies on a bilateral basis. During the most recent visit of the NATO PA delegation to China, in June 2019, Chinese officials showed limited interest in broadening cooperation between NATO and China on international security issues, such as international terrorism and counter-piracy. Moreover, host country interlocutors across the spectrum did not spare NATO criticism, arguing that the Alliance only claims to be promoting international peace and security, but it really seeks to marginalise Russia and China.

67. Therefore, Beijing is wary of the Alliance's intentions to forge a common strategy vis-à-vis China and was clearly uneasy with the mentioning of China in the Declaration of the NATO leaders' meeting in London in December 2019. To mitigate media headlines that were quick to identify China as NATO's next main challenge, the Chinese foreign ministry focused on the remarks by NATO Secretary General Jens Stoltenberg that NATO does not see China as an adversary. Beijing expressed hope that "NATO will continue to foster a positive view of China and regard China as a friend and partner" (Xinhua, 2020).

68. Within the Alliance itself, the demand to focus more on China has grown considerably in recent years, but full consensus has yet to be reached. The US position has evolved as well: the Obama administration preferred a division of labour with the European Allies, expecting the latter to take on

[3] Chinese officers have not used NATO's offer to attend courses at Oberammergau, but China remains keen to participate at high level NATO Defence College courses.

[4] Mostly in 2015. PASSEX was also held in 2018 in the North Sea before Chinese forces joined the Russian Navy for a joint exercise in the Baltic.

greater responsibility for European security, thus freeing up US resources to be redirected to the Pacific. However, the changing geopolitical realities, and China's growing strategic foothold in Europe in recent years, prompted the United States to reconsider this approach and to opt for mobilising the Alliance to face the Chinese challenge. The United States strongly supported the plan to update the NATO-wide baseline requirements for telecommunications such as 5G technology that was adopted by NATO Defence ministers in October 2019 and endorsed in the London meeting in December (Belkin, 2020). It is important to note that the concern about Chinese 5G technology is shared by both major political parties in the United States: during her visit to Brussels and the NATO PA in February 2020, US House Speaker Nancy Pelosi warned European Allies about the dangers of integrating Huawei technology into Europe's 5G communication networks. Canada also largely shares the US views on China.

69. European Allies, on the whole, are beginning to recognise that NATO must address the political, defence, and security challenges posed by China. German Foreign Minister Heiko Maas noted that "China is set to become the subject of the 21st century on both sides of the Atlantic" and that "it is important to gain a better understanding of what that implies for NATO" (Tharoor, 2019). For Central and Eastern European Allies, the urgency of China's challenge is overshadowed by that of Russia, but they are prepared to support the US position in return for the latter's continued commitment to Europe's territorial defence. However, several Allies continue to view China more through the lens of economic opportunities rather than security challenges. Even the "Atlanticist" members such as the UK prefer to assume a more dovish approach. NATO Ally Turkey, like several other NATO Allies, is cooperating with China within the framework of the Belt and Road Initiative. However, Turkey also expresses its concern about China's human rights violations against the members of the Uyghur minority in China both at the bilateral and international levels.

70. In sum, NATO has taken an important first step by identifying China as a challenge for the Euro-Atlantic community. Ways of addressing this challenge is a prominent leitmotif of the NATO 2030 reflection process. However, whether, and how soon, this will translate into a coherent NATO policy remains unclear. A prominent expert, Michael O'Hanlon of the Brookings Institution, finds it unlikely that any substantial strategic decisions on China could be forged through a multilateral body such as NATO at this stage (Tharoor, 2019). Yet, your Rapporteur is convinced that the rise of China is opening a new era in international relations, and NATO Allies should redouble their efforts to respond to this challenge collectively if the Alliance is to remain relevant.

VI. OPTIONS FOR THE FUTURE: HOW TO ENGAGE, HOW TO COMPETE, HOW TO COUNTER

71. NATO Secretary General Jens Stoltenberg has said that China was "shifting the global balance of power" (Tharoor, 2019). While NATO is not in the business of searching for new enemies, it must face reality and adapt to the new strategic environment. Some argue that NATO should have no role vis-à-vis China: after all, it appears unlikely that China would execute an "armed attack" in either "Europe or North America" in the foreseeable future. However, this view neglects the fact that the North Atlantic Treaty consists of more than just the mutual defence clause laid out in Article 5. It also pledges its signatories "to safeguard the freedom, common heritage, and civilisation of their peoples, founded on the principles of democracy, individual liberty, and the rule of law" – principles that could come under threat if the rise of China proceeds unaddressed by the Alliance. The fundamental incompatibility of the Chinese Communist Party's and NATO's values was explicitly stated by Secretary General Stoltenberg: while commenting on the new national security law for Hong Kong, Stoltenberg made it clear that "China does not share [NATO's] values – democracy, freedom, and the rule of law" (Reuters, 2020). Members of the democratic NATO Alliance – which are united in their common values and interests – should be ready to counter China's malign actions.

72. There are historical precedents for NATO's engagement beyond Europe and North America. Though as NATO Secretary General pointed out, NATO as an organisation has no plans to launch an operation in the South or East China Seas. Nevertheless, just as NATO reinvented itself to

counter the post-Cold War threats of terrorism or civil conflict that occurred predominantly outside of Europe, so should the Alliance and its individual members find ways to adapt to the multifaceted rise of China.

73. This report provides the following recommendations:

Act on the London Declaration

74. While a welcome first step, the reference to China in the London declaration must be followed by a readjustment of NATO's strategic documents (such as the Strategic Concept) as well as defence planning, training, and capability development priorities. At the very least, the Allies should engage in information-sharing and joint risk assessment of China's activities that could have direct security implications for NATO, such as the Russian-Chinese military exercises in the Baltic Sea region. NATO should consider establishing a small military headquarters element in the Indo-Pacific region to facilitate information exchange and coordination of exercises and activities by Allies in the region (Brzezinski, 2020). In addition, the Allies should explore the establishment of a NATO-certified Centre of Excellence in the Indo-Pacific that could identify initiatives that allow Allies to collaborate with regional partners on shared priorities and develop both a comprehensive understanding of the challenges China poses to the Alliance and the necessary actions the Alliance must take to deal with those challenges head on. NATO adaptation to the challenges posed by China is a pragmatic necessity and not an invitation to start a new Cold War. Action, not rhetoric should be our shared priority. Furthermore, NATO should consider providing more resources and manpower to its capability to provide expert advice to members with regard to potential security implications of third-party investments in critical infrastructure. As Frederick Kempe, President and CEO of the Atlantic Council, put it after the NATO London meeting, "Now alliance leaders should replace mocking and name calling with strategic planning and purpose" (Kempe, 2019).

75. While the Alliance cannot be expected to stand up immediate and extensive operations in the Indo-Pacific, Allies could support each other – on a bilateral basis or as a part of the coalition of the willing – in missions and exercises designed to help ensure the freedom of navigation and respect for international maritime law in South and East China Seas and to reassure regional NATO partners. European Allies' maritime involvement would be a welcome example of burden sharing, in the context where the United States is continuing to invest heavily in European security. Some have proposed that the European navies send one ship to the South and East China Seas for every Chinese vessel that participates in joint exercises with Russia (Binnendijk, Kirchberger, Skalbua, 2020).

Strengthen Ties with Partners

76. For the Euro-Atlantic Community the "China challenge" is not primarily military in nature, and hopefully it will stay that way. This challenge is mostly focused in areas where the Alliance has neither strong expertise nor any regulatory competences – such as economic and technology policy as well as foreign investments. The obvious solution is to seek out partners who do. In the politico-economic regulatory sphere, the natural partner is, of course, the EU. There are high degrees of transatlantic convergence – as well as potentially promising cooperation – between the United States, Canada, and EU members around certain important topics. These include China's autocratic practices and human rights violations in Hong Kong and Xinjiang Uyghur Autonomous Region, as well as China's aggressive behaviour and global expansion in the military sphere (Binnendijk, Kirchberger, Skaluba, 2020). NATO could offer the EU enhanced information sharing when it comes to its core competencies in the fields of security analysis, risk assessment, and strategic foresight. The EU-NATO communication would be particularly desirable in facilitating a more cohesive and holistic response to China's rise, especially when it comes to Chinese investments in critical infrastructure. NATO and EU members should be talking in unison to China on these matters.

77. Additionally, NATO and its members should strengthen security cooperation with like-minded partners in the Indo-Pacific in order to uphold and safeguard global commons such as the freedom of the seas, air, space, and cyberspace. Particularly, in the case of Australia and Japan, it is time for a new joint format that includes regular consultations along the example of the intensive consultations between NATO, Finland, and Sweden. Eventually, this could also lead to enhanced intelligence sharing, joint planning, and joint exercises (Pothier, 2019).

Scope for China-NATO Dialogue

78. Despite the growing discord between China and some Alliance members, one should not lose sight of the fact that there is still scope for positive cooperation with China. For instance, even as the spread of the coronavirus has become a cause for diplomatic friction, NATO-managed cargo planes have also been transporting urgently needed medical supplies from China to Alliance members (NATO, 2020). The regular NATO-China political and military dialogue has provided a useful platform to discuss topics of mutual interest – such as arms control, military transparency, Afghanistan and North Korea – and possible areas for more practical cooperation between NATO and China (NATO, 2018). One of those areas could be public diplomacy, since there is a clearly insufficient understanding in China of what NATO is and what it does. Another area for potential dialogue between Allies and China is security implications of climate change, particularly in the context of the recent announcement by President Xi Jinping that China – responsible for 28% of global emissions – would seek carbon neutrality by 2060. The EU plans to achieve climate neutrality by 2050, while the US President-elect Joe Biden declared a US return to the Paris Agreement an immediate priority.

79. In addition to the existing communication channels discussed in the previous chapter, several authoritative figures[5] call for a more ambitious dialogue forum to better address the multidimensional character of the relationship – namely a NATO-China Council. According to them, such a Council would not only help to align the bilateral dialogues of the 30 Allied members with Beijing but could also pave the way for a more constructive NATO-China relationship. While China would likely be reluctant to engage with the Alliance as a whole, in the end, even Beijing might come to realise that having an open communication channel with the most powerful military alliance in history could serve as an important tool for crisis and conflict prevention (Pavel & Brzezinsky, 2019). At the moment, however, the idea of the NATO-China Council does not seem realistic, not least because the de facto failure of the NATO-Russia Council discourages some Allies to set up a new, similarly comprehensive institutional framework.

Cover the Waterfront

80. As this revised report has demonstrated, the challenges posed by China's rise are not just growing, they are multiplying. China is in our midst in everything the Alliance and its members do. China is not a friendly actor. It is a malign actor. The country with the world's biggest population, second largest economy and highest manufacturing output, and second largest military by annual spending is an authoritarian state carrying out gross human rights abuses on a massive scale, including the ruthless persecution and mass imprisonment of members of the Uyghur minority, using cyber espionage and state owned enterprises to undermine private competitors in critical industries, demonstrating disregard for international law and sovereign territory, and securing for itself a massive network of global infrastructure. NATO must do more than just take note. NATO must develop the capabilities to monitor, engage, and when necessary counter the threats posed by China. This is not a burden the Alliance must bear alone, especially when the EU, national governments or other institutions are better suited to deal with specific matters. However, following the NATO Leaders Meeting in London, China is on the NATO agenda and the Alliance must act.

[5] Including former ISAF Commander John R. Allen, former Deputy Assistant Secretary of Defense for Europe and NATO Policy Ian Brzezinski and former special assistant to the president and senior director for defence policy and strategy on the National Security Staff Barry Pavel

81. In conclusion, while revanchist Russia, terrorism, and regional instability remain, inter alia, important challenges for NATO, addressing the rise of China must become a major priority for the Alliance. China can no longer be ignored if NATO is going to remain an unsurpassed political, economic, technological, and military bloc capable of protecting the values of liberal democracy and maintaining unity among the Alliance against this shared challenge.

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China Naval Modernization: Implications for U.S. Navy Capabilities—Background and Issues for Congress

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Committees of Congress

Summary

China's military modernization effort, including its naval modernization effort, is the top focus of U.S. defense planning and budgeting. China's naval modernization effort has been underway for more than 25 years, since the early to mid-1990s, and has transformed China's navy into a much more modern and capable force. China's navy is a formidable military force within China's near-seas region, and it is conducting a growing number of operations in the broader waters of the Western Pacific, the Indian Ocean, and waters around Europe.

China's navy is, by far, the largest of any country in East Asia, and sometime between 2015 and 2020 it surpassed the U.S. Navy in numbers of battle force ships (meaning the types of ships that count toward the quoted size of the U.S. Navy). DOD states that China's navy "is the largest navy in the world with a battle force of approximately 340 platforms, including major surface combatants, submarines, ocean-going amphibious ships, mine warfare ships, aircraft carriers, and fleet auxiliaries.... This figure does not include approximately 85 patrol combatants and craft that carry anti-ship cruise missiles (ASCM). The... overall battle force [of China's navy] is expected to grow to 400 ships by 2025 and 440 ships by 2030." The U.S. Navy, by comparison, included 294 battle force ships at the end of FY2021, and the Navy's FY2023 budget submission projects that the Navy will include 290 or 291 battle force ships by the end of FY2030. U.S. military officials and other observers are expressing concern or alarm regarding the pace of China's naval shipbuilding effort and resulting trend lines regarding the relative sizes and capabilities of China's navy and the U.S. Navy.

China's naval modernization effort encompasses a wide array of ship, aircraft, weapon, and C4ISR (command and control, communications, computers, intelligence, surveillance, and reconnaissance) acquisition programs, as well as improvements in logistics, doctrine, personnel quality, education and training, and exercises. China's navy has currently has certain limitations and weaknesses, which it is working to overcome.

China's military modernization effort, including its naval modernization effort, is assessed as being aimed at developing capabilities for, among other things, addressing the situation with Taiwan militarily, if need be; achieving a greater degree of control or domination over China's near-seas region, particularly the South China Sea; defending China's commercial sea lines of communication (SLOCs), particularly those linking China to the Persian Gulf; displacing U.S. influence in the Western Pacific; and asserting China's status as the leading regional power and a major world power. Observers believe China wants its navy to be capable of acting as part of an anti-access/area-denial (A2/AD) force—a force that can deter U.S. intervention in a conflict in China's near-seas region over Taiwan or some other issue, or failing that, delay the arrival or reduce the effectiveness of intervening U.S. forces.

The U.S. Navy has taken a number of actions to counter China's naval modernization effort. Among other things, the U.S. Navy has shifted a greater percentage of its fleet to the Pacific; assigned its most-capable new ships and aircraft to the Pacific; maintained or increased general presence operations, training and developmental exercises, and engagement and cooperation with allied and other navies in the Indo-Pacific; increased the planned future size of the Navy; initiated, increased, or accelerated numerous programs for developing new military technologies and acquiring new ships, aircraft, unmanned vehicles, and weapons; developed new operational concepts for countering Chinese maritime A2/AD forces; and signaled that the Navy in coming years will shift to a more-distributed fleet architecture that will feature a substantially greater use of unmanned vehicles. The issue for Congress is whether to approve, reject, or modify the Biden Administration's proposed U.S. Navy plans, budgets, and programs for responding to China's naval modernization effort.

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Introduction

Issue for Congress

This report provides background information and issues for Congress on China's naval modernization effort and its implications for U.S. Navy capabilities. China's military modernization effort, including its naval modernization effort, is the top focus of U.S. defense planning and budgeting.[1] The issue for Congress is whether to approve, reject, or modify the Biden Administration's proposed U.S. Navy plans, budgets, and programs for responding to China's naval modernization effort. Congress's decisions on this issue could affect U.S. Navy capabilities and funding requirements, and the U.S. defense industrial base.

Sources and Terminology

This report is based on unclassified open-source information, such as the annual Department of Defense (DOD) report to Congress on military and security developments involving China,[2] a 2019 Defense Intelligence Agency (DIA) report on China's military power,[3] a 2015 Office of Naval Intelligence (ONI) report on China's navy,[4] published reference sources such as *IHS Jane's Fighting Ships*,[5] and press reports.

For convenience, this report uses the term China's naval modernization effort to refer to the modernization not only of China's navy, but also of Chinese military forces outside China's navy that can be used to counter U.S. naval forces operating in the Western Pacific, such as land-based anti-ship ballistic missiles (ASBMs), land-based surface-to-air missiles (SAMs), land-based Air Force aircraft armed with anti-ship cruise missiles (ASCMs), and land-based long-range radars for detecting and tracking ships at sea.

China's military is formally called the People's Liberation Army (PLA). Its navy is called the PLA Navy, or PLAN (also abbreviated as PLA[N]), and its air force is called the PLA Air Force, or PLAAF. The PLA Navy includes an air component that is called the PLA Naval Air Force, or PLANAF. China refers to its ballistic missile force as the PLA Rocket Force (PLARF).

This report uses the term *China's near-seas region* to refer to the Yellow Sea, East China Sea, and South China Sea—the waters enclosed by the so-called *first island chain*. The so-called *second island chain* encloses both these waters and the Philippine Sea that is situated between the Philippines and Guam.[6]

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[1] For an overview of China's military, see CRS Report R46808, *China's Military: The People's Liberation Army (PLA)*, by Caitlin Campbell. For more on China's military modernization effort being the top focus of U.S. defense planning and budgeting, see CRS Report R43838, *Great Power Competition: Implications for Defense—Issues for Congress*, by Ronald O'Rourke.

[2] Department of Defense, *Military and Security Developments Involving the People's Republic of China 2022, Annual Report to Congress*, released on November 29, 2022, 174 pp. Hereinafter *2022 DOD CMSD*.

[3] Defense Intelligence Agency, *China Military Power, Modernizing a Force to Fight and Win*, 2019, 125 pp. Hereinafter *2019 DIA CMP*.

[4] Office of Naval Intelligence, *The PLA Navy, New Capabilities and Missions for the 21st Century*, undated but released in April 2015, 47 pp.

[5] *IHS Jane's Fighting Ships 2021-2022*, and previous editions.

[6] For a map showing the first and second island chains, see *2019 DIA CMP*, p. 32.

Background

Brief Overview of China's Naval Modernization Effort

Key overview points concerning China's naval modernization effort include the following:

- China's naval modernization effort, which forms part of a broader Chinese military modernization effort that includes several additional areas of emphasis,[7] has been underway for more than 25 years, since the early to mid-1990s, and has transformed China's navy into a much more modern and capable force.
- China's navy is a formidable military force within China's near-seas region, and it is conducting a growing number of operations in more-distant waters, including the broader waters of the Western Pacific, the Indian Ocean, and waters around Europe.
- China's navy is, by far, the largest of any country in East Asia, and as shown in **Table 2,** sometime between 2015 and 2020, China's navy surpassed the U.S. Navy in numbers of battle force ships (meaning the types of ships that count toward the quoted size of the U.S. Navy), making China's navy the numerically largest in the world. DOD states that "the PLAN is the largest navy in the world with a battle force of approximately 340 platforms, including major surface combatants, submarines, ocean-going amphibious ships, mine warfare ships, aircraft carriers, and fleet auxiliaries.... This figure does not include approximately 85 patrol combatants and craft that carry anti-ship cruise missiles (ASCM). The PLAN's overall battle force is expected to grow to 400 ships by 2025 and 440 ships by 2030. Much of this growth will be in major surface combatants."[8] The U.S. Navy, by comparison, included 294 battle force ships at the end of FY2021, and the Navy's FY2023 budget submission projects that the Navy will include 290 or 291 battle force ships by the end of FY2030.[9]
- U.S. military officials and other observers are expressing concern or alarm regarding the pace of China's naval shipbuilding effort and resulting trend lines regarding the relative sizes and capabilities of China's navy and the U.S. Navy.[10]

[7] Other areas of emphasis in China's military modernization effort include space capabilities, cyber and electronic warfare capabilities, ballistic missile forces, and aviation forces, as well as the development of emerging military-applicable technologies such as hypersonics, artificial intelligence, robotics and unmanned vehicles, directed-energy technologies, and quantum technologies. For more on China's military modernization effort in general, see CRS Report R46808, *China's Military: The People's Liberation Army (PLA)*, by Caitlin Campbell. For a discussion of advanced military technologies, see CRS In Focus IF11105, *Defense Primer: Emerging Technologies*, by Kelley M. Sayler. U.S.-China competition in military capabilities in turn forms one dimension of a broader U.S.-China strategic competition that also includes political, diplomatic, economic, technological, and ideological dimensions.

[8] *2022 DOD CMSD*, p. 52. See also *2019 DIA CMP*, p. 63.

[9] For additional discussion, see CRS Report RL32665, *Navy Force Structure and Shipbuilding Plans: Background and Issues for Congress*, by Ronald O'Rourke

[10] See, for example, Oliver Parken and Tyler Rogoway, "Extremely Ominous Warning About China From US Strategic Command Chief, Admiral Richard Says 'The Big One' with China Is Coming and the 'Ship Is Slowly Sinking' in Terms of U.S. Deterrence," *The Drive*, November 6, 2022; Xiaoshan Xue, "As China Expands Its Fleets, US Analysts Call for Catch-up Efforts," *VOA*, September 13, 2022; Aidan Quigley, "Chinese Navy Narrowing Capability Gap with U.S., Analysts Say," *Inside Defense*, November 16, 2021; Alex Hollings, "Just How Big Is China's Navy? Bigger Than You Think," *Sandboxx*, July 28, 2021; Kyle Mizokami, "China Just Commissioned Three Warships in a Single Day, That's Almost Half as Many as the U.S. Will Induct in One Year," *Popular Mechanics*, April 27, 2021; Geoff

China's navy is viewed as posing a major challenge to the U.S. Navy's ability to achieve and maintain wartime control of blue-water ocean areas in the Western Pacific—the first such challenge the U.S. Navy has faced since the end of the Cold War. China's navy forms a key element of a Chinese challenge to the long-standing status of the United States as the leading military power in the Western Pacific.

- China's naval ships, aircraft, and weapons are now much more modern and capable than they were at the start of the 1990s, and are now comparable in many respects to those of Western navies. DOD states that "as of 2021, the PLAN is largely composed of modern multi-role platforms featuring advanced anti-ship, anti-air, and anti-submarine weapons and sensors."[11] ONI states that "Chinese naval ship design and material quality is in many cases comparable to [that of] USN [U.S. Navy] ships, and China is quickly closing the gap in any areas of deficiency."[12]
- China's naval modernization effort encompasses a wide array of platform and weapon acquisition programs, including anti-ship ballistic missiles (ASBMs), anti-ship cruise missiles (ASCMs), submarines, surface ships, aircraft, unmanned vehicles (UVs),[13] and supporting C4ISR (command and control, communications, computers, intelligence, surveillance, and reconnaissance)

Ziezulewicz, "China's Navy Has More Ships than the US. Does That Matter?" *Navy Times*, April 9, 2021; Dan De Luce and Ken Dilanian, "China's Growing Firepower Casts Doubt on Whether U.S. Could Defend Taiwan, In War Games, China Often Wins, and U.S. Warships and Aircraft Are Kept at Bay," *NBC News*, March 27, 2021; Brad Lendon, "China Has Built the World's Largest Navy. Now What's Beijing Going to Do with It?" *CNN*, March 5, 2021; Andrew S. Erickson, "A Guide to China's Unprecedented Naval Shipbuilding Drive," *Maritime Executi*ve, February 11, 2021; Stephen Kuper, "Beijing Steps Up Naval Shipbuilding Program with Eyes on Global Navy," *Defence Connect*, January 11, 2021; James E. Fanell, "China's Global Navy—Today's Challenge for the United States and the U.S. Navy," *Naval War College Review*, Autumn 2020, 32 pp.; Ryan Pickrell, "China Is the World's Biggest Shipbuilder, and Its Ability to Rapidly Produce New Warships Would Be a 'Huge Advantage' in a Long Fight with the US, Experts Say," *Business Insider*, September 8, 2020; Ryan D. Martinson, "Deciphering China's 'World-Class' Naval Ambitions," *U.S. Naval Institute Proceedings*, August 2020; Dave Makichuk, "China's Navy Shipbuilders Are 'Outbuilding Everybody,'" *Asia Times*, March 11, 2020; Jon Harper, "Eagle vs Dragon: How the U.S. and Chinese Navies Stack Up," *National Defense*, March 9, 2020; H. I. Sutton, "The Chinese Navy Is Building An Incredible Number Of Warships," *Forbes*, December 15, 2019; Nick Childs and Tom Waldwyn, "China's Naval Shipbuilding: Delivering on Its Ambition in a Big Way," International Institute for Strategic Studies (IISS), May 1, 2018; James R. Holmes and Toshi Yoshihara, "Taking Stock of China's Growing Navy: The Death and Life of Surface Fleets," *Orbis*, Spring 2017: 269-285.

For articles offering differing perspectives, see, for example, David Axe, "The Chinese Navy Can't Grow Forever—The Slowdown Might Start Soon," *Forbes*, November 12, 2020; Mike Sweeney, *Assessing Chinese Maritime Power*, Defense Priorities, October 2020, 14 pp.

[11] *2022 DOD CMSD*, p. 50.

[12] Source: Unclassified ONI information paper prepared for Senate Armed Services Committee, subject "UPDATED China: Naval Construction Trends vis-à-vis U.S. Navy Shipbuilding Plans, 2020-2030," February 2020, p. 3. Provided by Senate Armed Services Committee to CRS and CBO on March 4, 2020, and used in this CRS report with the committee's permission.

[13] See, for example, Ryan Martinson, "Gliders With Ears: A New Tool in China's Subsea Surveillance Toolbox," *Maritime Executive*, March 21, 2022; Gabriel Honrada, "Underwater Drones Herald Sea Change in Pacific Warfare," *Asia Times*, January 12, 2022.

Ryan Fedasiuk, "Leviathan Wakes: China's Growing Fleet of Autonomous Undersea Vehicles," Center for International Maritime Security (CIMSEC), August 17, 2021.

systems. China's naval modernization effort also includes improvements in logistics, doctrine, personnel quality, education and training, and exercises.[14]

- China's military modernization effort, including its naval modernization effort, is assessed as being aimed at developing capabilities for, among other things, addressing the situation with Taiwan militarily, if need be; achieving a greater degree of control or domination over China's near-seas region, particularly the South China Sea; enforcing China's view that it has the right to regulate foreign military activities in its 200-mile maritime exclusive economic zone (EEZ);[15] defending China's commercial sea lines of communication (SLOCs), particularly those linking China to the Persian Gulf; displacing U.S. influence in the Western Pacific; and asserting China's status as the leading regional power and a major world power.[16]
- Observers believe China wants its navy to be capable of acting as part of an anti-access/area-denial (A2/AD) force—a force that can deter U.S. intervention in a conflict in China's near-seas region over Taiwan or some other issue, or failing that, delay the arrival or reduce the effectiveness of intervening U.S. forces. Additional missions for China's navy include conducting maritime security (including antipiracy) operations, evacuating Chinese nationals from foreign countries when necessary, and conducting humanitarian assistance/disaster response (HA/DR) operations.
- The planned ultimate size and composition of China's navy is not publicly known. In contrast to the U.S. Navy, China does not release a navy force-level goal or detailed information about planned ship procurement rates, planned total ship procurement quantities, planned ship retirements, and resulting projected force levels.
- Although China's naval modernization effort has substantially improved China's naval capabilities, China's navy currently is assessed as having limitations or weaknesses in certain areas,[17] including joint operations with other parts of China's military,[18] anti-submarine warfare (ASW), long-range targeting, a limited capacity for carrying out at-sea resupply of combatant ships operating far from home waters,[19] a limited number of overseas bases and support facilities,[20] a need to train large numbers of personnel to crew its new ships,[21] and a lack of recent

[14] See, for example, Roderick Lee, "The PLA Navy's ZHANLAN Training Series: Supporting Offensive Strike on the High Seas," *China Brief*, April 13, 2020.

[15] For additional discussion, see CRS Report R42784, *U.S.-China Strategic Competition in South and East China Seas: Background and Issues for Congress*, by Ronald O'Rourke.

[16] For additional discussion, see Ryan D. Martinson, "Deciphering China's 'World-class' Naval Ambitions," *U.S. Naval Institute Proceedings*, August 2020.

[17] For a discussion focusing on these limitations or weaknesses, see Mike Sweeney, *Assessing Chinese Maritime Power*, Defense Priorities, October 2020, 14 pp. See also Tai Ming Cheung, "Russia's Ukraine Disaster Exposes China's Military Weakness," *Foreign Policy*, October 24, 2022.

[18] See, for example, Ben Noon and Chris Bassler, "Schrodinger's Military? Challenges for China's Military Modernization Ambitions," *War on the Rocks*, October 14, 2021.

[19] See, for example, Will Mackenzie, "Commentary: It's the Logistics, China," *National Defense*, June 10, 2020.

[20] See, for example, Kristin Huang, "Size of China's Navy May Be Closing Gap on US Fleet But What Can the PLA Do with Just One Overseas Naval Base?" *South China Morning Post*, March 14, 2021.

[21] See, for example, Minnie Chan, "China's Navy Goes Back to Work on Big Ambitions but Long-Term Gaps Remain," *South China Morning Post*, August 22, 2020.

combat experience.[22] China is working to reduce or overcome such limitations and weaknesses.[23] Although China's navy has limitations and weaknesses, it may nevertheless be sufficient for performing missions of interest to Chinese leaders. As China's navy reduces its weaknesses and limitations, it may become sufficient to perform a wider array of potential missions.

- In addition to modernizing its navy, China has substantially increased the size and capabilities of its coast guard. DOD states that China's coast guard is "the largest maritime law enforcement fleet in the world."[24] China also operates a sizeable maritime militia that includes a large number of fishing vessels. China relies primarily on its maritime militia and coast guard to assert and defend its

[22] See, for example, Alastair Gale, "China's Military Is Catching Up to the U.S. Is It Ready for Battle?" *Wall Street Journal*, October 20, 2022; Benjamin Brimelow, "China's Military Is Growing Rapidly, But It Hasn't Been 'Tested' Like US Troops Have, Former Top US Admiral Says," *Business Insider*, March 29, 2022. The use of a dual command structure in the crews of larger Chinese ships, involving both a commanding officer and a political officer, has also been raised as a source of potential reduced command effectiveness in certain tactical situations. See "Leadership: China Cripples Naval Officers," *Strategy Page*, July 18, 2020. Some observers argue that corruption in China's shipbuilding companies may be a source of additional weaknesses in China's naval modernization effort. See, for example, Zi Yang, "The Invisible Threat to China's Navy: Corruption," *Diplomat*, May 19, 2020. See also Frank Chen, "Ex-PLA Navy Chief in Deep Water Amid War on Graft," *Asia Times*, June 26, 2020.

[23] For example, China's naval shipbuilding programs were previously dependent on foreign suppliers for some ship components. ONI, however, states that "almost all weapons and sensors on Chinese naval ships are produced in-country, and China no longer relies on Russia or other countries for any significant naval ship systems." (Source: Unclassified ONI information paper prepared for Senate Armed Services Committee, subject "UPDATED China: Naval Construction Trends vis-à-vis U.S. Navy Shipbuilding Plans, 2020-2030," February 2020, pp. 2-3. Provided by Senate Armed Services Committee to CRS and CBO on March 4, 2020, and used in this CRS report with the committee's permission.) Regarding the ASW capabilities of China's Navy, DOD states:

> The PLAN is also improving its anti-submarine warfare (ASW) capabilities through the development of its surface combatants and special mission aircraft, but it continues to lack a robust deep-water ASW capability. By prioritizing the acquisition of ASW capable surface combatants, acoustic surveillance ships, and fixed and rotary wing ASW capable aircraft, the PLAN is significantly improving its ASW capabilities. However, it will still require several years of training and systems integration for the PLAN to develop a robust offensive deep water ASW capability.
>
> (*2022 DOD CMSD*, p. 53.)

See also Ryan D. Martinson and Conor Kennedy, "Using the Enemy to Train the Troops—Beijing's New Approach to Prepare its Navy for War," *China Brief*, March 25, 2022; Samuel Cranny-Evans, "China's Maritime Surveillance Network: Bold Moves for Ocean Dominance," *Jane's International Defence Review*, February 17, 2022; Ma Xiu and Peter W. Singer, "How China Steals US Tech to Catch Up in Underwater Warfare," *Defense One*, June 8, 2021; Amanda Rivkin, "German Engine Technology Found in Chinese Warships—Report," *Deutsche Welle (dw.com)*, November 6, 2021.

[24] DOD states that

> The CCG's [China Coast Guard's] rapid expansion and modernization has made it the largest maritime law enforcement fleet in the world. Its newer vessels are larger and more capable than older vessels, allowing them to operate further offshore and remain on station longer. A 2019 academic study published by the U.S. Naval War College estimates the CCG has over 140 regional and oceangoing patrol vessels (of more than 1,000 tons displacement). Some of the vessels are former PLAN vessels, such as corvettes, transferred to the CCG and modified for CCG operations. The newer, larger vessels are equipped with helicopter facilities, high-capacity water cannons, interceptor boats, and guns ranging from 20 to 76 millimeters. In addition, the same academic study indicates the CCG operates more than 120 regional patrol combatants (500 to 999 tons), which can be used for limited offshore operations, and an additional 450 coastal patrol craft (100 to 299 tons).
>
> (*2022 DOD CMSD*, p. 78. See also *2019 DIA CMP*, p. 78.)

maritime claims in its near-seas region, with the navy operating over the horizon as a potential backup force.[25]

Numbers of Ships; Comparisons to U.S. Navy

Overview

DOD states that "the PLAN is the largest navy in the world with a battle force of approximately 340 platforms, including major surface combatants, submarines, ocean-going amphibious ships, mine warfare ships, aircraft carriers, and fleet auxiliaries.... This figure does not include approximately 85 patrol combatants and craft that carry anti-ship cruise missiles (ASCM). The PLAN's overall battle force is expected to grow to 400 ships by 2025 and 440 ships by 2030. Much of this growth will be in major surface combatants."[26] DIA states that "the PLAN is rapidly retiring older, single-mission warships in favor of larger, multimission ships equipped with advanced antiship, antiair, and antisubmarine weapons and sensors and C2 [command and control] facilities."[27]

Ultimate Size and Composition of China's Navy Not Publicly Known

The planned ultimate size and composition of China's navy is not publicly known. The U.S. Navy makes public its force-level goal and regularly releases a 30-year shipbuilding plan that shows planned procurements of new ships, planned retirements of existing ships, and resulting projected force levels, as well as a five-year shipbuilding plan that shows, in greater detail, the first five years of the 30-year shipbuilding plan.[28] In contrast, China does not release a navy force-level goal or detailed information about planned ship procurement rates, planned total ship procurement quantities, planned ship retirements, or resulting projected force levels. The ultimate size and composition of China's navy might be an unsettled and evolving issue among Chinese military and political leaders. One observer states that "it seems the majority of past foreign projections of Chinese military and Chinese navy procurement scale and speed have been underestimates…. All military forces have a desired force requirement and a desired 'critical mass' to aspire toward. Whether the Chinese navy is close to its desired force or not, is of no small consequence."[29]

Number of Ships Is a One-Dimensional Measure, but Trends in Numbers Can Be of Value Analytically

Relative U.S. and Chinese naval capabilities are sometimes assessed by showing comparative numbers of U.S. and Chinese ships. Although the total number of ships in a navy (or a navy's aggregate tonnage) is relatively easy to calculate, it is a one-dimensional measure that leaves out numerous other factors that bear on a navy's capabilities and how those capabilities compare to its assigned missions. As a result, as discussed in further detail in **Appendix A**, comparisons of

[25] For additional discussion, see *2022 DOD CMSD*, pp. 79-80, and CRS Report R42784, *U.S.-China Strategic Competition in South and East China Seas: Background and Issues for Congress*, by Ronald O'Rourke.

[26] *2022 DOD CMSD*, p. 52. See also *2019 DIA CMP*, p. 63.

[27] *2019 DIA CMP*, p. 69.

[28] For more information on the U.S. Navy's force-level goal, 30-year shipbuilding plan, and five-year shipbuilding plan, see CRS Report RL32665, *Navy Force Structure and Shipbuilding Plans: Background and Issues for Congress*, by Ronald O'Rourke.

[29] Rick Joe, "Hints of Chinese Naval Procurement Plans in the 2020s," *Diplomat*, December 25, 2020.

the total numbers of ships in China's navy and the U.S. Navy are highly problematic as a means of assessing relative U.S. and Chinese naval capabilities and how those capabilities compare to the missions assigned to the two navies. At the same time, however, an examination of *trends over time in these relative numbers of ships* can shed some light on how the relative balance of U.S. and Chinese naval capabilities might be changing over time.

Three Tables Showing Numbers of Chinese and U.S. Navy Ships

Table Showing Figures from Annual DOD Reports

Table 1 shows numbers of certain types of Chinese navy ships—those that might be thought of as the principal combat ships of China's navy—from 2005 to the present, along with the number of China coast guard ships from 2017 to the present, as presented in DOD's annual reports on military and security developments involving China. As can be seen in **Table 1**, every type of Chinese navy ship shown in the table has increased numerically since 2005.

As can be seen in **Table 1**, about 61% of the increase since 2005 in the total number of Chinese navy ships shown in the table (a net increase of 83 ships out of a total net increase of 135 ships) resulted from increases in missile-armed fast patrol craft starting in 2009 (a net increase of 33 ships) and corvettes starting in 2014 (50 ships). These are the smallest surface combatants shown in the table. The net 33-ship increase in missile-armed fast patrol craft was due to the construction between 2004 and 2009 of about 60 new *Houbei* (Type 022) fast attack craft[30] and the retirement of about 27 older fast attack craft. The 50-ship increase in corvettes is due to the *Jingdao* (Type 056) corvette program discussed later in this report. ONI states that "a significant portion of China's Battle Force consists of the large number of new corvettes and guided-missile frigates recently built for the PLAN."[31] As can also be seen in the table, most of the remaining increase since 2005 in the number of Chinese navy ships shown in the table is accounted for by increases in cruisers and destroyers (21 ships) and amphibious ships (14 ships).

Table 1 lumps together less capable older Chinese ships with more capable modern Chinese ships. In examining the numbers in the table, it can be helpful to keep in mind that for many of the types of Chinese ships shown in the table, the percentage of the ships accounted for by more capable modern designs was growing over time, even if the total number of ships for those types was changing little.

For reference, **Table 1** also shows the total number of ships in the U.S. Navy (known technically as the total number of battle force ships), and compares it to the total number of the types of Chinese ships that are shown in the table.[32] The result is an apples-vs.-oranges comparison, because the Chinese figures exclude certain ship types, such as auxiliary and support ships, while the U.S. Navy figure includes auxiliary and support ships but excludes patrol craft. Changes over time in this apples-vs.-oranges comparison, however, can be of value in understanding trends in the comparative sizes of the U.S. and Chinese navies.

[30] The Type 022 program was discussed in the August 1, 2018, version of this CRS report, and earlier versions.

[31] Source: Unclassified ONI information paper prepared for Senate Armed Services Committee, subject "UPDATED China: Naval Construction Trends vis-à-vis U.S. Navy Shipbuilding Plans, 2020-2030," February 2020, p. 4. Provided by Senate Armed Services Committee to CRS and CBO on March 4, 2020, and used in this CRS report with the committee's permission.

[32] The DOD report generally covers events of the prior calendar year. Thus, the 2021 edition covers events during 2020, and so on for earlier years. Similarly, for the U.S. Navy figures, the 2021 column in **Table 1** shows the figure for the end of FY2020, and so on for earlier years.

Table 1. Numbers of Certain Types of Chinese and U.S. Ships Since 2005

Figures for Chinese ships taken from annual DOD reports on military and security developments involving China for the years 2005-2022

Year of DOD report	SSB	SSN	SS	CV	CG	DD	FF	FFL	PC	LST/ LPD	LSM	Total PLAN ship types shown to right	CCG	U.S. total	U.S. vs. PLAN ship types shown
2005	1	6	51	0	0	21	43	0	51	20	23	**216**	*n/a*	**292**	**+76**
2006	1	5	50	0	0	25	45	0	45	25	25	**221**	*n/a*	**281**	**+60**
2007	1	5	53	0	0	25	47	0	41	25	25	**222**	*n/a*	**281**	**+59**
2008	1	5	54	0	0	29	45	0	45	26	28	**233**	*n/a*	**279**	**+46**
2009	2	6	54	0	0	27	48	0	70	27	28	**262**	*n/a*	**282**	**+20**
2010	2	6	54	0	0	25	49	0	85	27	28	**276**	*n/a*	**285**	**+9**
2011	2	5	49	0	0	26	53	0	86	27	28	**276**	*n/a*	**288**	**+12**
2012	2	5	48	0	0	26	53	0	86	28	23	**271**	*n/a*	**284**	**+13**
2013	3	5	49	1	0	23	52	0	85	29	26	**273**	*n/a*	**287**	**+14**
2014	3	5	51	1	0	24	49	8	85	29	28	**283**	*n/a*	**285**	**+2**
2015	4	5	53	1	0	21	52	15	86	29	28	**294**	*n/a*	**289**	**-5**
2016	4	5	57	1	0	23	52	23	86	30	22	**303**	*n/a*	**271**	**-32**
2017	4	5	54	1	0	21	56	23	88	34	21	**317**	*185*	**275**	**-42**
2018	4	5	57	1	0	28	51	28	86	33	23	**306**	*240*	**279**	**-27**
2019	4	6	50	1	0	33	54	42	86	37	22	**335**	*248*	**286**	**-49**
2020	4	6	46	2	1	32	49	49	86	37	21	**333**	*255*	**290**	**-43**
2021	6	9	56	2	1	32	48	51	86	57		**348**	*223*	**296**	**-52**
2022	6	9	56	2	6	36	45	50	84	57		**351**	*224*	**294**	**-57**
2022: change since 2005	+5	+3	+5	+2	+6	+15	+2	+50	+33	+14		**+135**	*n/a*	**+2**	**-133**

Sources: Table prepared by CRS based on 2005-2022 editions of annual DOD report to Congress on military and security developments involving China (known for 2009 and prior editions as the report on China military power), and (for U.S. Navy ships) U.S. Navy data as presented in CRS Report RL32665, *Navy Force Structure and Shipbuilding Plans: Background and Issues for Congress*, by Ronald O'Rourke.

Key to abbreviations: n/a = data not available in annual DOD report. **SSB** = ballistic missile submarines. **SSN** = nuclear-powered attack submarines. **SS** = diesel attack submarines. **CV** = aircraft carriers. **CG** = cruisers. **DD** = destroyers. **FF** = frigates. **FFL** = corvettes (i.e., light frigates). **PC** = missile-armed coastal patrol craft. **LST** = amphibious tank landing ship. **LPD** = amphibious transport dock ship. **LSM** = amphibious medium landing ship. (Starting with the 2021 edition, the annual DOD report shows a combined figure for LST/LPD and LSM.) Column for **Total PLAN ship types shown to right**, which shows what might be thought of as the principal combat ships of China's navy, does not include other PLAN ship types not shown to right, such as auxiliary and support ships. **CCG** = China Coast Guard ships. **U.S. total** = Total U.S. Navy battle force ships, which includes auxiliary and support ships but excludes patrol craft. **U.S. vs. PLAN ship types shown** = total U.S. Navy battle force ships compared to the column for **Total PLAN ship types shown to right**.

Notes: The DOD report generally covers events of the prior calendar year. Thus, the 2021 edition covers events during 2020, and so on for earlier years. Similarly, for the U.S. Navy figures, the 2021 column shows the figure for the end of FY2020, and so on for earlier years.

On the basis of the figures in **Table 1**, it might be said that in 2015, the total number of principal combat ships in China's navy surpassed the total number of U.S. Navy battle force ships (a figure that includes not only the U.S. Navy's principal combat ships, but also other U.S. Navy ships, such as auxiliary and support ships). It is important, however, to keep in mind the differences in composition between the two navies. The U.S. Navy, for example, has many more aircraft carriers, nuclear-powered submarines, and cruisers and destroyers, while China's navy has many more diesel attack submarines, frigates, and corvettes.

Table Showing ONI Figures from February 2020

Table 2 shows comparative numbers of Chinese and U.S. battle force ships (and figures for certain types of ships that contribute toward China's total number of battle force ships) from 2000 to 2030, with the figures for 2025 and 2030 being projections. The figures for China's ships are taken from an ONI information paper of February 2020. Battle force ships are the types of ships that count toward the quoted size of the U.S. Navy. For China, the total number of battle force ships shown excludes the missile-armed coastal patrol craft shown in **Table 1**, but includes auxiliary and support ships that are not shown in **Table 1**. Compared to **Table 1**, the figures in **Table 2** come closer to providing an apples-to-apples comparison of the two navies' numbers of ships, although it could be argued that China's missile-armed coastal patrol craft can be a significant factor for operations within the first island chain.

Table 2. Numbers of Chinese and U.S. Navy Battle Force Ships, 2000-2030

Figures for Chinese ships taken from ONI information paper of February 2020

	2000	2005	2010	2015	2020	2025	2030
Ballistic missile submarines	1	1	3	4	4	6	8
Nuclear-powered attack submarines	5	4	5	6	7	10	13
Diesel attack submarines	56	56	48	53	55	55	55
Aircraft carriers, cruisers, destroyers	19	25	25	26	43	55	65
Frigates, corvettes	38	43	50	74	102	120	135
Total China navy battle force ships, including types not shown above	**210**	**220**	**220**	**255**	**360**	**400**	**425**
Total U.S. Navy battle force ships	***318***	***282***	***288***	***271***	***297***	***287***	***290 or 291***
U.S. total above compared to China total above	***+108***	***+62***	***+68***	***+16***	***-63***	***-113***	***-135 or -134***

Sources: Table prepared by CRS. Source for China's navy: Unclassified ONI information paper prepared for Senate Armed Services Committee, subject "UPDATED China: Naval Construction Trends vis-à-vis U.S. Navy Shipbuilding Plans, 2020-2030," February 2020, 4 pp. Provided by Senate Armed Services Committee to CRS and CBO on March 4, 2020, and used in this CRS report with the committee's permission. Figures are for end of calendar year. Source for figures for U.S. Navy: U.S. Navy data; figures are for end of fiscal year.

Note: In the column for the year 2000, the ONI information paper showed a figure for the total number of China navy battle force ships of 110, but the Navy later stated that this was a typo, and that the correct figure is 210.

As shown in **Table 2**, China's navy surpassed the U.S. Navy in terms of total number of battle force ships sometime between 2015 and 2020. As mentioned earlier in connection with **Table 1**,

however, it is important to keep in mind the differences in composition between the two navies. The U.S. Navy, for example, currently has many more aircraft carriers, nuclear-powered submarines, and cruisers and destroyers, while China's navy currently has many more diesel attack submarines, frigates, and corvettes.

Table Showing U.S. Navy Figures from October 2020

Table 3 shows numbers of certain types of Chinese navy ships in 2020, and projections of those numbers for 2025, 2030, and 2040, along with the total number of U.S. Navy battle force ships in 2020. The figures for China's ships were provided by the Navy at the request of CRS. As with **Table 1**, the result for 2020 is an apples-vs.-oranges comparison between the Chinese navy and U.S. navy totals, because the Chinese total for 2020 excludes certain ship types, such as auxiliary and support ships, while the U.S. Navy total for 2020 includes auxiliary and support ships.

Table 3. Numbers of Chinese and U.S. Navy Ships, 2020-2040

Figures for Chinese ships are from U.S. Navy, reflecting data as of October 2020

Ship type	2020	2025	2030	2040	2040 change from 2020
Ballistic missile submarines	4	6	8	10	+6
Nuclear-powered attack submarines	6	10	14	16	+10
Diesel attack submarines	47	47	46	46	-1
Aircraft carriers	2	3	5	6	+4
Cruisers and destroyers	41	52	60	80	+39
Frigates and corvettes	102	120	135	140	+38
LHA-type amphibious assault ships	0	4	4	6	+6
LPD-type amphibious ships	7	10	14	14	+7
LST-type amphibious tank landing ships	30	24	24	15	-15
TOTAL for China of types shown above	**239**	**276**	**310**	**333**	**+94**
TOTAL number of U.S. Navy battle force ships	***297***	***287***	***290 or 291***	***324 or 350***	***+27 or +53***
U.S. total above compared to China total above	***+58***	***+11***	***-20 or -19***	***-9 or +17***	***-67 or -41***

Source: For Chinese navy ships: U.S. Navy data provided to CRS by Navy Office of Legislative Affairs, reflecting data as of October 26, 2020.

Note: The figures for the U.S. Navy for 2030 and 2040 show different alternatives presented in the Navy's FY2023 budget submission.

As shown in **Table 3**, the U.S. Navy projects that between 2020 and 2040, the total number of Chinese ships of the types shown in the table will increase by 94, or about 39%, with most of that increase (77 ships out of 94) coming from roughly equal increases in numbers of large surface combatants (cruisers and destroyers—39 ships) and small surface combatants (frigates and corvettes—38 ships). Numbers of ballistic missile submarines and nuclear-powered attack submarines are each projected to more than double between 2020 and 2040, and the total number of diesel attack submarines is projected to remain almost unchanged. The number of large surface combatants is projected to almost double, and the number of small surface combatants is projected to increase by more than one-third. Numbers of larger (LHA- and LPD-type) amphibious ships are projected to increase, and the number of smaller (LST-type) amphibious

ships is projected to decline, with the result that the total number of amphibious ships of all kinds is projected to decline slightly.

Selected Elements of China's Naval Modernization Effort

This section provides a brief overview of elements of China's naval modernization effort that have attracted frequent attention from observers.

Anti-Ship Missiles

Anti-Ship Ballistic Missiles (ASBMs)

China is fielding two types of land-based ballistic missiles with a capability of hitting ships at sea—the DF-21D (**Figure 1**), a road-mobile anti-ship ballistic missile (ASBM) with a range of more than 1,500 kilometers (i.e., more than 910 nautical miles), and the DF-26 (**Figure 2**), a road-mobile, multi-role intermediate range ballistic missile (IRBM) with a maximum range of about 3,000 kilometers (i.e., about 1,620 nautical miles) that DOD says "capable of conducting both conventional and nuclear precision strikes against ground targets as well as conventional strikes against naval targets."[33]

Figure 1. DF-21D Anti-Ship Ballistic Missile (ASBM)

Source: Cropped version of photograph accompanying Andrew S. Erickson, "China's DF-21D Anti-Ship Ballistic Missile (ASBM)—Officially Revealed at 3 September Parade—Complete Open Source Research Compendium," AndrewErickson.com, September 10, 2015, accessed August 28, 2019.

[33] *2022 DOD CMSD*, p. 64. A map on page 67 of the report shows the DF-26 with a range of 4,000 kilometers (about 2,160 nautical miles).

Figure 2. DF-26 Multi-Role Intermediate-Range Ballistic Missile (IRBM)

Source: Cropped version of photograph accompanying Missile Defense Project, "Dong Feng-26 (DF-26)," Missile Threat, Center for Strategic and International Studies, January 8, 2018, last modified January 15, 2019, accessed August 28, 2019.

Until 2020, reported test flights of DF-21s and SDF-26s had not involved attempts to hit moving ships at sea. A November 14, 2020, press report, stated that an August 2020 test firing of DF-21 and DF-26 ASBMs into the South China resulted in the missiles successfully hitting a moving target ship south of the Paracel Islands.[34] A December 3, 2020, press report stated that Admiral Philip Davidson, the commander of U.S. Indo-Pacific Command, "confirmed, for the first time from the U.S. government side, that China's People's Liberation Army has successfully tested an anti-ship ballistic missile against a moving ship."[35]

In April 2022, it was reported that China may have developed a new type of ASBM, perhaps designated the YJ-21, that is small enough to fit into the vertical launch tube of a surface combatant, and that China had test fired such a weapon from a Type 055 cruiser (or large destroyer).[36]

China reportedly is also developing hypersonic glide vehicles that, if incorporated into Chinese ASBMs, could make Chinese ASBMs more difficult to intercept.[37]

Observers have expressed strong concerns about China's ASBMs, because such missiles, in combination with broad-area maritime surveillance and targeting systems, would permit China to attack aircraft carriers, other U.S. Navy ships, or ships of allied or partner navies operating in the Western Pacific. The U.S. Navy has not previously faced a threat from highly accurate ballistic missiles capable of hitting moving ships at sea. For this reason, some observers have referred to ASBMs as a "game-changing" weapon.

[34] Kristin Huang, "China's 'Aircraft-Carrier Killer' Missiles Successfully Hit Target Ship in South China Sea, PLA Insider Reveals," *South China Morning Post*, November 14, 2020. See also Peter Suciu, "Report: China's 'Aircraft-Carrier Killer' Missiles Hit Target Ship in August," *National Interest*, November 15, 2020; Andrew Erickson, "China's DF-21D and DF-26B ASBMs: Is the U.S. Military Ready?" *Real Clear Defense*, November 16, 2020.

[35] Josh Rogin, "China's Military Expansion Will Test the Biden Administration," *Washington Post*, December 3, 2020.

[36] Rick Fisher, "China Deploys New Missiles Against the US Navy," Epoch Times, April 29, 2022; Minnie Chan, "Chinese Navy Shows Off Hypersonic Anti-Ship Missiles In Public," *South China Morning Post*, April 20, 2022; Tyler Rogoway, "Mysterious New Missile Launched By China's Giant Type 055 Destroyer," *The Drive*, April 20.

[37] See, for example, Christian Davenport, "Why the Pentagon Fears the U.S. Is Losing the Hypersonic Arms Race with Russia and China," *Washington Post*, June 8, 2018; Keith Button, "Hypersonic Weapons Race," *Aerospace America*, June 2018.

Anti-Ship Cruise Missiles (ASCMs)

China's extensive inventory of anti-ship cruise missiles (ASCMs) (see **Figure 3**, **Figure 4**, and **Figure 5** for examples of reported images) includes both Russian- and Chinese-made designs, including some advanced and highly capable ones, such as the Chinese-made YJ-18.[38]

Figure 3. Reported Image of Anti-Ship Cruise Missile (ASCM)

Source: Detail of photograph accompanying Pierre Delrieu, "China Promotes Export of CM-302 Supersonic ASCM," *Asian Military Review*, July 3, 2017. (The article states "This is an article published in our December 2016 Issue.") The article states "According to Chinese news media reports, the China Aerospace Science and Industry Corporation (CASIC) CM-302 missile is being marketed for export as "the world's best anti-ship missile." The missile was showcased at the Zhuhai air show in the southern People's Republic of China (PRC) in early November [2016], and is advertised as [a] supersonic Anti-Ship Missile (AShM) [ASCM] which can also be used in the land attack role. The report, published by the national newspaper *China Daily*, suggest[s] that the CM-302 is the export version of CASIC's YJ-12 supersonic AShM, which is in service with the PRC's armed forces.")

Although China's ASCMs do not always receive as much press attention as China's ASBMs (perhaps because ASBMs are a more recent development), observers are nevertheless concerned about them. As discussed later in this report, the relatively long ranges of certain Chinese ASCMs have led to concerns among some observers that the U.S. Navy is not moving quickly enough to arm U.S. Navy surface ships with similarly ranged ASCMs.

Press reports in April 2019 and December 2021 state that China might be developing a YJ-18 launcher that can be packaged inside a standard commercial shipping container, for the potential

[38] *2022 DOD CMSD*, p. 54. See also Sam Goldsmith, *Vampire Vampire Vampire, The PLA's Anti-Ship Cruise Missile Threat to Australian and Allied Naval Operations*, Australian Strategic Policy Institute (ASPI), April 2022, 43 pp.; Michael Peck, "Chinese Scientists Say They're Working on an Anti-Ship Missile that Can Fly as High as an Airliner and Dive as Deep as a Submarine," *Business Insider*, October 20, 2022; "China Is Developing a New Supersonic Anti-Ship Missile," *Naval News*, September 19, 2022.

purpose of surreptitiously deploying YJ-18s on merchant ships (**Figure 6**),[39] a capability that, if implemented, could violate the law of naval warfare.[40]

Figure 4. Reported Image of Anti-Ship Cruise Missile (ASCM)

Source: Photograph accompanying "YJ-18 Eagle Strike CH-SS-NX-13," GlobalSecurity.org, updated October 1, 2019. The article states, "A grand military parade was held in Beijing on 01 October 2019 to mark the People's Republic of China's 70th founding anniversary.… One weapon featured was a new generation of anti-ship missiles called YJ-18. China unveiled YJ-18/18A anti-ship cruise missiles in the National Day military parade in central Beijing."

[39] See, for example, Bill Gertz, "China Building Long-Range Cruise Missile Launched From Ship Container," *Washington Free Beac*on, March 27, 2019; Alex Hollings, "China's New Long-Range Cruise Missiles Are Built to be Fired from Containers on Merchant Ships," *SOFREP (Special Operations Forces Report)*, April 4, 2019; "China Is Building Long-Range Cruise Missiles Launched from Ship Containers," *Navy Recognition,* April 8, 2019; Rajesh Uppal, "Threat of Concealed Weapon and Missiles Systems on Standard International Shipping Container," International Defense, Security & Technology, October 20, 2021; Tariq Tahir, "China Feared to be Hiding Missiles in Shipping Containers for Trojan Horse-Style Plan to Launch Attack Anywhere in World," *U.S. Sun*, December 6, 2021. See also Fan Wei and Cao Siqi, "China Debuts Container-Type Missile Launch System; Weapon Can 'Effectively Improve Defense Capabilities of Coastal Countries,'" *Global Times*, November 12, 2022.

[40] Raul (Pete) Pedrozo, "China's Container Missile Deployments Could Violate the Law of Naval Warfare," *International Law Studies (U.S. Naval War College)*, vol. 97, 2021: 1160-1170.

Figure 5. Reported Image of Anti-Ship Cruise Missile (ASCM)

Source: Dennis M. Gormley, Andrew S. Erickson, and Jingdong Yuan, *A Low-Visibility Force Multiplier, Assessing China's Cruise Missile Ambitions*, Published by National Defense University Press for the Center for the Study of Chinese Military Affairs, Institute for National Strategic Studies, Washington, DC, 2014. The image appears on an unnumbered page following page 14. The caption to the photograph states, "YJ-83A/C-802A ASCM on display at 2008 Zhuhai Airshow." The photograph is credited to Associated Press/Wide World Photos.

Figure 6. Illustration of Reported Potential Containerized ASCM Launcher

Source: Illustration accompanying Tariq Tahir, "China Feared to be Hiding Missiles in Shipping Containers for Trojan Horse-Style Plan to Launch Attack Anywhere in World," *U.S. Sun*, December 6, 2021.

Submarines

Overview

China has been steadily modernizing its submarine force, and most of its submarines are now built to relatively modern Chinese and Russian designs.[41] Qualitatively, China's newest submarines might not be as capable as Russia's newest submarines,[42] but compared to China's earlier submarines, which were built to antiquated designs, its newer submarines are much more capable.

Types and Numbers

Most of China's submarines are non-nuclear-powered attack submarines (SSs). China also operates a small number of nuclear-powered attack submarines (SSNs) and a small number of nuclear-powered ballistic missile submarines (SSBNs). The number of SSNs and SSBNs may grow in coming years, but the force will likely continue to consist mostly of SSs. DOD states that "the PLAN has placed a high priority on modernizing its submarine force, but its force structure continues to grow modestly as it works to mature its force, integrate new technologies, and expand its shipyards.... The PLAN will likely maintain between 65 and 70 submarines through the 2020s, replacing older units with more capable units on a near one-to-one basis."[43]

ONI states that "China's submarine force continues to grow at a low rate, though with substantially more-capable submarines replacing older units. Current expansion at submarine production yards could allow higher future production numbers." ONI projects that China's submarine force will grow from a total of 66 boats (4 SSBNs, 7 SSNs, and 55 SSs) in 2020 to 76 boats (8 SSBNs, 13 SSNs, and 55 SSs) in 2030.[44] A November 27, 2022, press report states: "The dry-docks at China's nuclear submarine facility at Huludao, Liaoning province, show increased activity. New construction halls are primed. Another dry dock is ready to go. International analysts point to this as evidence Beijing is gearing up for the mass production of a new generation of nuclear-powered attack and ballistic missile submarines."[45]

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[41] For a discussion of Russian military transfers to China, including transfers of submarine technology, see Paul Schwartz, *The Changing Nature and Implications of Russian Military Transfers to China*, Center for Strategic and International Studies (CSIS), June 2021, 8 pp.

[42] Observers have sometimes characterized Russia's submarines as being the most capable faced by the U.S. Navy. See, for example, Joe Gould and Aaron Mehta, "US Could Lose a Key Weapon for Tracking Chinese and Russian Subs," *Defense News*, May 1, 2019; Dave Majumdar, "Why the U.S. Navy Fears Russia's Submarines," *National Interest*, October 12, 2018; John Schaus, Lauren Dickey, and Andrew Metrick, "Asia's Looming Subsurface Challenge," *War on the Rocks*, August 11, 2016; Paul McLeary, "Chinese, Russian Subs Increasingly Worrying the Pentagon," *Foreign Policy*, February 24, 2016; Dave Majumdar, "U.S. Navy Impressed with New Russian Attack Boat," *USNI News*, October 28, 2014.

[43] *2022 DOD CMSD*, p. 52.

[44] Source: Unclassified ONI information paper prepared for Senate Armed Services Committee, subject "UPDATED China: Naval Construction Trends vis-à-vis U.S. Navy Shipbuilding Plans, 2020-2030," February 2020, p. 1. Provided by Senate Armed Services Committee to CRS and CBO on March 4, 2020, and used in this CRS report with the committee's permission. See also H. I. Sutton, "China Increases Production Of AIP Submarines With Massive New Shipyard," *Naval News*, February 16, 2021; H. I. Sutton, "First Image Of China's New Nuclear Submarine Under Construction," *Naval News*, February 1, 2021.

[45] Jamie Seidel, "Satellite Photos Reveal China's Hypocrisy After Dig to Australia," *News.com.au*, November 27, 2022.

China's newest series-built SS design is the Yuan-class (Type 039) SS (**Figure 7**), its newest SSN class is the Shang-class (Type 093) SSN (**Figure 8**), and its newest SSBN class is the Jin (Type 094) class SSBN (**Figure 9**).

Figure 7.Yuan (Type 039) Attack Submarine (SS)

Source: Photograph accompanying "Type 039A Yuan class," SinoDefence.com, July 10, 2018, accessed August 28, 2019.

Figure 8. Shang (Type 093) Attack Submarine (SSN)

Source: Photograph accompanying SinoDefence.com, "Type 093 Shang Class," July 1, 2018, accessed August 27, 2019, at http://sinodefence.com/type093_shang-class/.

Figure 9. *Jin* (Type 094) Ballistic Missile Submarine (SSBN)

Source: Cropped version of photograph accompanying Minnie Chan, "China Puts a Damper on Navy's 70th Anniversary Celebrations As It Tries to Allay Fears Over Rising Strength," *South China Morning Post*, April 23, 2019. The article credits the photograph to Xinhua.

DOD states that

> the PRC continues to increase its inventory of conventional submarines capable of firing advanced anti-ship cruise missiles (ASCM). Between the mid-1990s and mid-2000s, the PLAN purchased 12 Russian-built KILO class SS units, eight of which are capable of launching ASCMs. China's shipyards have delivered 13 SONG class SS (Type 039) and 17 YUAN class diesel-electric air-independent propulsion attack submarine[s] (SSP) (Type 039A/B). The PRC is expected to produce a total of 25 or more YUAN class submarines by 2025. In late 2021, the PLAN retired the first two KILO-class submarines purchased from Russia in the 1990s.[46]

DOD states further that

> Over the past 15 years, the PLAN has constructed twelve nuclear submarines—two SHANG I class SSNs (Type 093), four SHANG II class SSNs (Type 093A), and six JIN class SSBNs (Type 094). Equipped with the CSS-N-14 (JL-2) submarine-launched ballistic missile (SLBM) (7,200KM), the PLAN's six operational JIN class SSBNs represent the PRC's first credible sea-based nuclear deterrent.
>
> By the mid-2020s, the PRC will likely build the SHANG class (Type 093B) guided-missile nuclear-powered attack submarine (SSGN). This new SHANG class variant will enhance the PLAN's anti-surface warfare capability and could provide a clandestine land-attack option if equipped with land-attack cruise missiles (LACM).[47]

[46] *2022 DOD CMSD*, pp. 52-53.

[47] *2022 DOD CMSD*, p. 53.

In February 2022, the first of a new class of SS, smaller than the Yuan design, was reported, but it is not clear whether this design is intended for China's navy, for export to other countries, or both.[48]

A May 16, 2022, press report states

> A submarine seen in a satellite photo of a Chinese shipyard shows what could be a new class or subtype of a nuclear-powered attack sub with a new stealthy propulsion system and launch tubes for cruise missiles.
>
> The satellite photo of the shipyard at Huludao in Liaoning province, northern China, which was provided to Defense News by Planet Labs, was taken May 3 and shows a submarine on a drydock.
>
> The unidentified boat's presence at the yard was first noted in an April 29 satellite image by geospatial intelligence outfit AllSource Analysis. The organization said the submarine is possibly a new class undergoing construction by China.[49]

Submarine Weapons

China's submarines are armed with one or more of the following: ASCMs, wire-guided and wake-homing torpedoes, and mines. Wake-homing torpedoes can be very difficult for surface ships to decoy. DOD states that each Jin-class SSBN is equipped to carry 12 JL-2 or JL-3 nuclear-armed submarine-launched ballistic missiles (SLBMs).[50] The JL-3 is a new SLBM with a range longer than that of the JL-2. A May 2, 2021, press report stated that China's latest Jin-class SSBN is armed with JL-3s.[51]

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[48] H. I. Sutton, "China's New Submarine Is Unlike Anything In Western Navies," *Naval News*, February 15, 2022; Gabriel Honrada, "China Offers a Glimpse of New Type Mini-Submarine," *Asia Times*, February 10, 2022.

[49] Mike Yeo, "Satellite Photo Shows Possible New Chinese Nuclear Submarine Able to Launch Cruise Missiles," *Defense News*, May 16, 2022. See also Gabriel Honrada, "Satellite Reveals China's New Nuclear Attack Sub," *Asia Times*, May 16, 2022; John Feng, "China's New Nuclear Submarine May Just Have Been Revealed," *Newsweek*, May 10, 2022; Greg Torode, "Satellite Images Raise Prospect of New Class of Chinese Submarine," *Reuters*, May 10, 2022.

[50] *2022 DOD CMSD*, pp. 94, 96. DOD estimates the range of the JL-2 at 7,200 km (*2022 DOD CMSD*, p. 53). Such a range could permit Jin-class SSBNs to attack targets in Alaska (except the Alaskan panhandle) from protected bastions close to China, targets in Hawaii (as well as targets in Alaska, except the Alaskan panhandle) from locations south of Japan, targets in the western half of the 48 contiguous states (as well as Hawaii and Alaska) from mid-ocean locations west of Hawaii, or targets in all 50 states from mid-ocean locations east of Hawaii. DOD states that

> The current range limitations of the JL-2 will require the JIN to operate in areas north and east of Hawaii if the PRC seeks to target the east coast of the United States. The fielding of newer, more capable, and longer ranged SLBMs such as the JL-3 gives the PLAN the ability to target the continental United States from littoral waters[,] allowing the PLAN to consider bastion operations to enhance the survivability of its sea-based deterrent. The South China Sea and Bohai Gulf are probably the PRC's preferred options for employing this concept.
>
> (*2022 DOD CMSD*, p. 96.)

See also Kyle Mizokami, "China's New Submarine-Launched Missile Can Reach the Western U.S., The JL-3 Nuclear-Tipped Missile Can Only Hit About a Third of the United States, But It's Enough," Popular *Mechanics*, November 28, 2022.

[51] Minnie Chan, "China's New Nuclear Submarine Missiles Expand Range in US: Analysts," *South China Morning Post*, May 2, 2021. The article states that the JL-3 has a "range [of] over 10,000km (6,200 miles), a source close to the [Chinese] navy said." Such a range could permit Jin-class SSBNs to attack larger portions of the United States from the locations described in the previous footnote.

Aircraft Carriers

Overview[52]

China's first aircraft carrier, *Liaoning* (Type 001) (**Figure 10**), entered service in 2012. China's second aircraft carrier (and its first fully indigenously built carrier), *Shandong* (Type 002) (**Figure 11**) entered service on December 17, 2019. *Liaoning* and *Shandong* launch fixed-wing aircraft using a "ski ramp" at the ship's bow.

Figure 10. *Liaoning* (Type 001) Aircraft Carrier

Source: Cropped version of photograph accompanying China Power Team, "How Does China's First Aircraft Carrier Stack Up?" China Power (Center for Strategic and International Studies), December 9, 2015, updated December 14, 2018, accessed August 28, 2019.

Compared with *Liaoning* and *Shandong*, U.S. Navy aircraft carriers are larger (about 100,000 tons full load displacement), nuclear powered (giving them greater cruising endurance than a conventionally powered ship), able to embark and operate a larger number of aircraft (60 or more), and launch fixed-wing aircraft using catapults, which can give those aircraft a range/payload capability greater than that of aircraft launched with a ski ramp.

China's third carrier, *Fujian* (Type 003) (**Figure 12**, **Figure 13**, and **Figure 14**), was launched (i.e., put into the water for the final stages of its construction) in on June 17, 2022.[53] ONI expects

[52] For an article providing a review of developments in China's aircraft carrier and carrier-based aircraft programs, see Rick Joe, "003 and More: An Update on China's Aircraft Carriers," *Diplomat*, September 29, 2020. Consistent with the discussion in that article, this CRS report uses the following updated designations of China's carriers: China's second aircraft carrier, previously referred to as the Type 001A, is now referred to as the Type 002; the next aircraft carrier design after that, previously referred to as the Type 002, is now referred to as the Type 003, and the potential design that could follow, previously referred to as the Type 003, is now referred to as the Type 004.

[53] See, for example, Alexandra Stevenson, "China Launches Third Aircraft Carrier in Major Milestone for Xi Jinping," *New York Times*, June 17, 2022; Chun Han Wong, "China Launches Third Aircraft Carrier, Advancing Naval

the ship to enter service by 2024.[54] The ship is expected to be conventionally powered, closer in size to U.S. Navy aircraft carriers, and equipped with catapults rather than a ski ramp for launching aircraft. China's fourth carrier reportedly may have begun construction as early as 2021.[55]

Figure 11. *Shandong* (Type 002) Aircraft Carrier

Source: Cropped version of photograph accompanying Daniel Brown, "China's Newest Aircraft Carrier Is Actually Very Outdated—But Its Next One Should Worry the US Navy A Lot," *Business Insider*, July 18, 2018. The article credits the photograph to Reuters.

Observers have speculated that China may eventually field a force of four to six (or possibly more than six) aircraft carriers. In late November 2019, it was reported that the Chinese government, while deciding to proceed with the construction of the fourth carrier, had put on hold plans to build a fifth carrier, known as the Type 004, which was to be nuclear-powered, due to budgetary and technical considerations.[56] Observers expect that it will be some time before China masters carrier-based aircraft operations on a substantial scale.

Liaoning (Type 001)

Liaoning is a refurbished ex-Ukrainian aircraft carrier that China purchased from Ukraine in 1998 as an unfinished ship.[57] It is conventionally powered, has an estimated full load displacement of 60,000 to 66,000 tons, and reportedly can accommodate an air wing of 30 or more fixed-wing

Ambitions," *Wall Street Journal*, June 17, 2022; Jack Lau, "China Launches Fujian, PLA Navy's 3rd Aircraft Carrier," *South China Morning Post*, June 17, 2022.

[54] Source: Unclassified ONI information paper prepared for Senate Armed Services Committee, subject "UPDATED China: Naval Construction Trends vis-à-vis U.S. Navy Shipbuilding Plans, 2020-2030," February 2020, p. 4. Provided by Senate Armed Services Committee to CRS and CBO on March 4, 2020, and used in this CRS report with the committee's permission.

[55] Minnie Chan, "Chinese Navy Set to Build Fourth Aircraft Carrier, but Plans for a More Advanced Ship Are Put on Hold," *South China Morning Post*, November 28, 2019.

[56] Minnie Chan, "Chinese Navy Set to Build Fourth Aircraft Carrier, but Plans for a More Advanced Ship Are Put on Hold," *South China Morning Post*, November 28, 2019. See also Steven Stashwick, "Technical Problems, Slowing Economy Cut China's Carrier Ambitions," *Diplomat*, December 4, 2019; Sebastien Roblin, "China Cancels Plans for Two Nuclear-Powered Super Aircraft Carriers," *National Interest*, December 7, 2019; Minnie Chan, "China's Navy is Being Forced to Rethink Its Spending Plans as Cost of Trade War Rises," *South China Morning Post*, May 26, 2019.

[57] Prior to the dissolution of the Soviet Union in December 1991, Ukraine was a part of the Soviet Union and the place where the Soviet Union built its aircraft carriers.

airplanes and helicopters, including 24 fighters. The *Liaoning* lacks aircraft catapults and instead launches fixed-wing airplanes off the ship's bow using an inclined ski ramp.

Figure 12. *Fujian* (Type 003) Aircraft Carrier

Source: Photograph accompanying Brad Lendon, "Never Mind China's New Aircraft Carrier, These Are the Ships the US Should Worry About," CNN, June 26, 2022.

Some observers have referred to the *Liaoning* as China's "starter" carrier. China has been using *Liaoning* in part for pilot training. In May 2018, China reportedly announced that the aircraft carrier group formed around *Liaoning* had reached initial operational capability (IOC),[58] although that term might not mean the same as it does when used by DOD in connection with U.S. weapon systems.

Shandong (Type 002)

Shandong is a modified version of the *Liaoning* design that incorporates some design improvements, including features that reportedly will permit it to embark and operate a larger air wing of 40 aircraft that includes 36 fighters.[59] Its displacement is estimated at 66,000 to 70,000 tons.

[58] Andrew Tate, "Liaoning Carrier Group Reaches Initial Operational Capability, *IHS Jane's Defence Weekly*, June 4, 2018. See also Travis Fedschun, "China Says Carrier Group Reaches 'Initial' Combat Capability," *Fox News*, May 31, 2018; "China's First Aircraft Carrier Formation Capable of Systemic Combat Operation," CGTV.com, May 31, 2018; *Global Times*, "Chinese Aircraft Carrier Forming All-Weather Combat Capability with Successful Night Takeoff and Landing," *People's Daily Online*, May 29, 2018.

[59] See, for example, Liu Xuanzun, "China's Second Aircraft Carrier Can Carry 50% More Fighter Jets Than Its First," *Global Times*, August 13, 2019; Liu Zhen, "China's New Aircraft Carrier to Pack More Jet Power Than the Liaoning," *South China Morning Post*, August 15, 2019.

Figure 13. *Fujian* (Type 003) Aircraft Carrier

Source: Cropped version of photograph accompanying Minnie Chan, "China's Fujian aircraft carrier doesn't have radar and weapon systems yet, photos show," *South China Morning Post*, July 19, 2022.

Fujian (Type 003)

Earlier press reports had generally stated that *Fujian* might have a displacement of 80,000 tons to 85,000 tons. A November 29, 2020, press report, however, stated that satellite images of the ship under construction suggest that this estimate may be a bit low, and that *Fujian* might be closer in displacement to U.S. Navy aircraft carriers, which have a displacement of about 100,000 tons.[60] *Fujian* is expected to be equipped with electromagnetic catapults rather than a ski ramp, which will improve the range/payload capability of the fixed-wing aircraft that they operate.

China's Fourth Carrier

A May 1, 2022, press report states, "Recent images of a stealth fighter jet at a naval airbase suggest China has begun pilot training preparations for a fourth aircraft carrier, defence experts say."[61] Some sources have stated that China's fourth aircraft carrier would be built to the Type

[60] See, for example, H. I. Sutton, "China's New Super Carrier: How It Compares To The US Navy's Ford Class," *Naval News*, July 2, 2021; H. I. Sutton, "China's New Aircraft Carrier Is In Same League As US Navy's Ford Class," *Naval News*, April 15, 2021. See also Ryan Pickrell, "Satellite Photos Show China's New Aircraft Carrier Coming Together Quickly and Reveal More About its Design," *Business Insider*, July 20, 2021.

[61] Minnie Chan, "Is China Ready for Aircraft Carrier No 4? Talk Swirls Over Stealth Fighter Jets at PLA Naval Base,"

003 design. Press reports from October 10, 2022, and March 13, 2021, however, suggest that the ship may be nuclear-powered rather than conventionally powered.[62]

Figure 14. *Fujian* (Type 003) Aircraft Carrier

Source: Cropped version of photograph accompanying David Rising and Ken Moritsugu, "China Launches High-Tech Aircraft Carrier in Naval Milestone," Associated Press, June 17, 2022. The caption to the photograph states, "This satellite image from Planet Labs PBC shows China's new Type 003 aircraft carrier with bunting on its desk preparing to be launched Wednesday, June 15, 2022, from a shipyard in Shanghai, China. China on Friday, June 17, 2022, launched its third aircraft carrier, the first such ship to be designed and built entirely within the country. (Planet Labs PBC via AP)"

South China Morning Post, May 1, 2022.

[62] Gabriel Honrada, "China's Next Aircraft Carrier Likely to Be Nuclear," *Asia Times*, October 10, 2022; Minnie Chan, "Chinese Military: Fourth Aircraft Carrier Likely to Be Nuclear Powered, Sources Say," *South China Morning Post*, March 13, 2021. See also EurAsian Times Desk, "China Aims To Deploy First-Ever 'Nuclear-Powered Aircraft Carrier' By 2025–Reports," *EurAsian Times*, March 13, 2021.

Possible Type 076 Catapult-Equipped Amphibious Assault Ship

See also the discussion of the possible catapult-equipped Type 076 amphibious assault ship (**Figure 26** and **Figure 27**) in the section on China's amphibious ships.

Commercial Heavy-Lift Ship Reportedly Used in Exercise as Helicopter Carrier

In August 2020, it was reported that China had used a commercial heavy-lift ship in a military exercise as a platform for operating at least two PLA Army helicopters.[63]

Carrier-Based Aircraft[64]

China's primary carrier-based fighter aircraft is the J-15 or Flying Shark (**Figure 15** and **Figure 16**), an aircraft derived from the Russian Su-33 Flanker aircraft design that can operate from carriers equipped with a ski ramp rather than catapults, but which some observers have critiqued for its range/payload limitations in operations from carriers equipped with ski ramps rather than catapults.[65] December 2021 press reports stated that China has developed an upgraded, catapult-capable version of the J-15 that could have improved range/payload when operated from a catapult-equipped carrier.[66]

China reportedly plans to develop a carrier-capable variant of its J-20 fifth-generation stealth fighter and/or a carrier-capable variant of its FC-31/J-31 fifth-generation stealth fighter to complement or succeed the J-15 on catapult-equipped Chinese carriers.[67] China reportedly is also

[63] David Axe, "Surprise! The Chinese Navy Just Transformed This Cargo Ship Into An Instant Helicopter Carrier," *Forbes*, August 22, 2020; Dave Makichuk, "PLA Army Tests Commercial Ships as Wartime Flight Decks," *Asia Times*, August 25, 2020; John Dotson, "Semi-Submersible Heavy Lift Vessels: A New "Maritime Relay Platform" for PLA Cross-Strait Operations?" Jamestown Foundation, August 31, 2020.

[64] For an overview of PLA naval aviation forces, see "PLA Navy Aerospace Forces" in *PLA Aerospace Power: A Primer on Trends in China's Military Air, Space, and Missile Forces*, 3rd Edition, Air University, China Aerospace Studies Institute (CASI), undated, posted August 15, 2022, pp. 38-52.

[65] For a discussion of the J-15, see, for example, Rick Joe, "China's J-15 Carrierborne Fighter: Sizing up the Competition," *Diplomat*, May 20, 2021.

[66] Andreas Rupprecht Mainz and Jon Grevatt, "Shenyang Produces First Catapult-Capable J-15," *Jane's Defence Weekly*, December 16, 2021; David Axe, "China's Next Carrier Fighter Is A Lighter, Meaner J-15," *Forbes*, December 20, 2021.

[67] See *2022 DOD CMSD*, p. 60; Daniel Salisbury, *PRC Navy Likely Testing Carrier-Based Stealth Fighters*, China Aerospace Studies Institute, January 2022, 3 pp.; Mike Yeo, "New Variants of Chinese Stealth Fighters Break Cover," *Defense News*, October 29, 2021; Ryan Pickrell, "China Is Working on a Next-Generation Fighter Jet for Its Growing Fleet of Aircraft Carriers and Could Unveil It This Year," *Business Insider*, September 30, 2021; Zhao Lei, "New AVIC Fighter Jet to Appear 'Before Year's End,'" *China Daily*, September 30, 2021; Reuben Johnson, "China's J-35 Carrier Fighter Appears; Step To 'Most Powerful Navy'?" *Breaking Defense*, July 1, 2021; Reuben Johnson, "COVID, Hacking, and Spying Helped China Develop a New Stealth Fighter in Record Time," *Bulwark*, June 23, 2021; Mike Yeo, "Stealth Fighter Mock-up Appears at China's Aircraft Carrier Testing Facility," *Defense News*, June 9, 2021; H. I. Sutton, "First Sighting Of New Stealth Fighter For Chinese Navy's Aircraft Carriers," *Naval News*, June 8, 2021; Rick Joe, "The FC-31, China's 'Other' Stealth Fighter, A Look at the Jet with Many Names—and Its Carrier-Based Future," *Diplomat*, February 18, 2021; Kris Osborn, "Is China Building Its Own F-35 Fighter Jets for its Aircraft Carriers?" *National Interest*, July 3, 2020; Caleb Larson, "FC-31: China's Next Carrier Jet is Stolen and Stealthy," *National Interest*, April 18, 2020; Sebastien Roblin, "China's New Aircraft Carriers Are Getting Stealth Fighters," *National Interest*, October 26, 2019; Rick Joe, "Beyond China's J-20 Stealth Fighter," *Diplomat*, September 20, 2019; Minnie Chan, "China's Navy 'Set to Pick J-20 Stealth Jets for Its Next Generation Carriers,'" *South China Morning Post*, August 27, 2019. See also Thomas Newdick, "New Images Of China's Elusive Catapult-Capable J-15T Carrier Fighter Emerge," *The Drive*, November 18, 2020.

developing a carrier-based airborne early warning (AEW) aircraft, called the KJ-600, that is similar to the U.S. Navy's carrier-based E-2 Hawkeye AEW aircraft,[68] and stealth drone aircraft.[69]

Figure 15. J-15 Flying Shark Carrier-Capable Fighter

Source: Photograph accompanying "China Developing Elite New Variants of the J-15 Flying Shark to Deploy from EMALS Equipped Future Carriers; Implications for the Balance of Power at Sea," *Military Watch Magazine*, August 17, 2018, accessed August 28, 2019.

Roles and Missions

Although aircraft carriers might have some value for China in Taiwan-related conflict scenarios, they are not considered critical for Chinese operations in such scenarios, because Taiwan is within range of land-based Chinese aircraft. Consequently, most observers believe that China is acquiring carriers primarily for their value in other kinds of operations, and to demonstrate China's status as a leading regional power and major world power. Chinese aircraft carriers could be used for power-projection operations, particularly in scenarios that do not involve opposing U.S. forces, and to impress or intimidate foreign observers.[70]

[68] *2022 DOD CMSD*, p. 55. See also, for example, Liu Zhen, "China's Military Steps Up Development of Ship-Based Warplanes to Keep Up with Aircraft Carrier Advances," *South China Morning Post*, July 30, 2022; Liu Xuanzun, "China's First Carrier-Based Early Warning Plane Continues Flight Tests: Report," *Global Times*, February 22, 2021; H. I. Sutton, "First Image Of China's New Carrier-Based AEW Plane," *Forbes*, August 29, 2020; Liu Xuanzun, "China's First Carrier-Based, Fixed-Wing Early Warning Aircraft Makes Maiden Flight: Reports," *Global Times*, September 1, 2020; Peter Suciu, "The Xian KJ-600 Could Make China's Aircraft Carriers Far More Powerful," *National Interest*, September 5, 2020; Kris Osborn, "KJ-600: China's New Surveillance Plane Will Make Their Aircraft Carriers Even More Deadly," *National Interest*, September 8, 2020.

[69] Minnie Chan, "China to Deploy Sharp Sword Stealth Drone for New Type 001A Aircraft Carrier," *South China Morning Post*, September 17, 2019. See also Joseph Trevithick, "Chinese Aircraft Carrier Seen With A Fleet Of Drones On Its Deck," *The Drive*, June 2, 2022.

[70] For a discussion, see, for example, Bryan McGrath and Seth Cropsey, "The Real Reason China Wants Aircraft Carriers, China's Carrier Plans Target U.S. Alliances, Not Its Navy," *Real Clear Defense* (*www.realcleardefense.com*),

Figure 16. J-15 Flying Shark Carrier-Capable Fighter

Source: Photograph accompanying Mike Yeo, "Footage Shows Domestic Engine on China's J-15 Fighter Jet," Defense News, November 28, 2022. The article credits the photograph to the Chinese Defense Ministry.

Chinese aircraft carriers could also be used for humanitarian assistance and disaster relief (HA/DR) operations, maritime security operations (such as antipiracy operations), and noncombatant evacuation operations (NEOs). Politically, aircraft carriers could be particularly valuable to China for projecting an image of China as a major world power, because aircraft carriers are viewed by many as symbols of major world power status. In a combat situation involving opposing U.S. naval and air forces, Chinese aircraft carriers would be highly vulnerable to attack by U.S. ships and aircraft, but conducting such attacks could divert U.S. ships and aircraft from performing other missions in a conflict situation with China.

Surface Combatants

Overview

China since the early 1990s has put into service numerous new classes of indigenously built surface combatants, including a new cruiser (or large destroyer), several classes of destroyers and frigates, a new class of corvettes (i.e., light frigates), and a new class of missile-armed patrol craft.

April 10, 2014; Sebastien Roblin, "All of the Reasons Why the World Should Fear China's Aircraft Carriers," *National Interest*, October 24, 2017.

These new classes of surface combatants demonstrate a significant modernization of PLA Navy surface combatant technology. DOD states that China's navy "remains engaged in a robust shipbuilding program for surface combatants. At the close of 2021, the PLAN was building an aircraft carrier, a new batch of guided-missile destroyers (DDG), and a new batch of guided missile frigates (FFG). These assets will significantly upgrade the PLAN's air defense, anti-ship, and anti-submarine capabilities, and will be critical as the PLAN expands its operations beyond the range of the PLA's shore-based air defense systems."[71] DIA states that "the era of past designs has given way to production of modern multimission destroyer, frigate, and corvette classes as China's technological advancement in naval design has begun to approach a level commensurate with, and in some cases exceeding, that of other modern navies."[72] China is also upgrading its older surface combatants with new weapons and other equipment.[73]

Type 055 Cruiser/Large Destroyer

China is building a new class of cruiser (or large destroyer), called the Renhai-class or Type 055 (**Figure 17**, **Figure 18**, and **Figure 19**), that reportedly displaces between 12,000 and 13,000 tons.[74] A March 7, 2021, press report by a Chinese media outlet states that the ship displaces more than 12,000 tons.[75] By way of comparison, the U.S. Navy's Ticonderoga (CG-47) class cruisers and Arleigh Burke (DDG-51) class destroyers (aka the U.S. Navy's Aegis cruisers and destroyers) displace about 10,100 tons and 9,700 tons, respectively, while the U.S. Navy's three Zumwalt (DDG-1000) class destroyers displace about 15,700 tons.

Figure 17. *Renhai* (Type 055) Cruiser (or Large Destroyer)

Source: Cropped version of photograph accompanying Marielle Descalsota, "Take a Look at China's Biggest Destroyer, a $920 Million Cruiser That's Said to Be the 2nd Most Powerful in the World after the USS Zumwalt," Business Insider, June 22, 2022. The photograph is credited to Sun Zifa/China News Service/Getty Images.

[71] *2022 DOD CMSD*, p. 53.

[72] *2019 DIA CMP*, p. 70.

[73] See, for example, H. I. Sutton, "China Increases Potency Of Anti-Carrier Capabilities," *Forbes*, May 1, 2020; Peter Suciu, "Chinese Warships Are Now Armed with Supersonic Anti-Ship Missiles," *National Interest*, May 10, 2020.

[74] One article from a Chinse media outlet, for example, states, "This ship class has a displacement of more than 12,000 tons." (Liu Xuanzun, "Chinese PLA's Two Newly Commissioned Large Destroyers 'Ready for Combat' with Latest Drills," *Global Times*, August 22, 2022.) See also China Daily, "2nd Type 055 Destroyer Enters Service," *People's Daily Online*, March 10, 2021.) For a discussion of the Type 055 design, see Sidharth Kaushal, "The Type 055: A Glimpse into the PLAN's Developmental Trajectory," Royal United Services Institute (RUSI), October 19, 2020.

[75] Liu Xuanzun, "China's 2nd Type 055 Large Destroyer Enters Naval Service," *Global Times*, March 7, 2021.

Figure 18. *Renhai* (Type 055) Cruiser (or Large Destroyer)

Source: Photograph accompanying Peter Suciu, "Chinese Navy to Launch 8th New Type 055 'Stealth' Destroyer," *National Interest*, August 22, 2020. The article credits the photograph to "Chinese Internet."

Figure 19. Renhai (Type 055) Cruiser (or Large Destroyer)

Unofficial illustration by *Naval News*

Source: Illustration accompanying H. I. Sutton, "Bigger Than A U.S. Navy AEGIS Cruiser: China Is Building More Type-055s," *Naval News*, January 12, 2022.

ONI states that Type 055 ships are being built by two shipyards.[76] The first was reportedly commissioned into service in January 2020.[77] A total of six were reportedly in service as of August 2022.[78] In August 2020, it was reported that the seventh was delivered to the navy in May 2020,[79] and that the eighth was launched on August 30, 2020,[80] and "will complete the first group of Type 055 destroyers."[81] DOD states that the fourth was commissioned in December 2021 and that "the remaining four" would likely be commissioned during 2022.[82] A January 2022 press report stated that in addition to the first eight ships, at least two more are under construction.[83]

Type 052 Destroyer

China since the early 1990s has put into service multiple new classes of indigenously built destroyers, the most recent of which is the Luyang III (Type 052D) class (**Figure 20**), which displaces about 7,500 tons and is equipped with phased-array radars and vertical launch missile systems that outwardly are broadly similar to those on U.S. Navy cruisers and destroyers. Type 052D ships have been in serial production for some time; an August 21, 2022, press report states that 25 of the ships are in service and at least six more are under construction at the two shipyards that build Type 052 destroyers.[84] Press reports in March 2021 stated that China is now

[76] Source: Unclassified ONI information paper prepared for Senate Armed Services Committee, subject "UPDATED China: Naval Construction Trends vis-à-vis U.S. Navy Shipbuilding Plans, 2020-2030," February 2020, p. 4. Provided by Senate Armed Services Committee to CRS and CBO on March 4, 2020, and used in this CRS report with the committee's permission.

[77] Liu Xuanzun, "China's 2nd Type 055 Large Destroyer Enters Naval Service," *Global Times*, March 7, 2021. See also China Daily, "2nd Type 055 Destroyer Enters Service," *People's Daily Online*, March 10, 2021; Xavier Vavasseur, "China's 2nd Type 055 Destroyer 'Lhasa' 拉萨 Commissioned With PLAN," *Naval News*, March 7, 2021; Xavier Vavasseur, "China Commissions A Type 055 DDG, A Type 075 LHD And A Type 094 SSBN In A Single Day," *Naval News*, April 24, 2021.

[78] Liu Xuanzun, "Chinese PLA's Two Newly Commissioned Large Destroyers 'Ready for Combat' with Latest Drills," *Global Times*, August 22, 2022.

[79] Minnie Chan, "Chinese Navy May Launch Eighth Type 055 Stealth Destroyer Later This Year," *South China Morning Post*, August 20, 2020.

[80] Liu Xuanzun, "PLA Launches New Type 055, Type 052D Destroyers After Decommissioning All Type 051 Destroyers: Reports," *Global Times*, August 30, 2020.

[81] Minnie Chan, "Chinese Navy May Launch Eighth Type 055 Stealth Destroyer Later This Year," *South China Morning Post*, August 20, 2020. See also Peter Suciu, "Chinese Navy to Launch 8th New Type 055 'Stealth' Destroyer," *National Interest*, August 22, 2020. A November 18, 2020, press report that cited a November 16, 2020, Chinese-language press report stated that "China's Type 055 destroyer is equipped with a microwave anti-missile system which can disable the electronic equipment of incoming enemy aircraft and missiles, and even burn the enemy's pilots." ("China Uses Microwave Weapons against India," *Chinascope*, November 18, 2020, which cited the following as its source: "Lianhe Zaobao, November 16, 2020, https://www.zaobao.com.sg/realtime/china/story20201116-1101404.")

[82] *2022 DOD CMSD*, pp. 53-54.

[83] H. I. Sutton, "Bigger Than A U.S. Navy AEGIS Cruiser: China Is Building More Type-055s," *Naval News*, January 12, 2022.

[84] Xavier Vavasseur, "Five Type 052D Destroyers Under Construction In China," *Naval News*, August 21, 2022. The article's headline refers to a photograph of five of the ships under construction at a shipyard at Dalian, China. The article states, "Contacted by Naval News, two Chinese military observers confirmed that there are currently 25 destroyers of the class (13 Type 052D and 12 Type 052DL) currently in service with the PLAN. They will soon be joined by the five under construction at Dalian and (at least) one more being built at the Jiangnan Changxing Shipbuilding and Heavy Industry Corporation (the other Chinese shipyard building large surface combatants, located North East of Shanghai)."

commissioning an upgraded version of the Type 052D, informally called the Type 052DL, that incorporates an extended-length helicopter flight deck and a new radar.[85]

Figure 20. *Luyang III* (Type 052D) Destroyer

Source: Cropped version of photograph accompanying "Type 052D Luyang-III Class," SinoDefence.com, September 3, 2017, accessed August 28, 2019.

Type 054 Frigate

China since the early 1990s has also put into service multiple new classes of indigenously built frigates, the most recent of which is the Jiangkai II (Type 054A) class (**Figure 21**), which displaces about 4,000 tons. ONI stated in February 2020 that 30 Type 054As entered service between 2008 and 2019, and that no additional Type 054As were then under construction.[86] An August 2021 press report from a Chinse media outlet, however, stated that "China is reportedly building another batch of Type 054A frigates for the People's Liberation Army Navy (PLA Navy) after it had launched two new ships of this class over the past few months." The press report noted that a report from the *Jane's* organization had stated that the 32nd Type 054A ship had recently been launched (i.e., put into the water for the final stages of its construction).[87] A May 7, 2022, press report stated

> Speculation is mounting among China's military observers that construction is about to start on a bigger and faster frigate, designed to keep up with the PLA Navy's third aircraft carrier which is nearing completion.

[85] "Chinese Navy Commissions Upgraded Variation of the Type 052D Destroyer," *Navy Recognition*, March 3, 2021; Liu Xuanzun, "PLA's 4th Improved Type 052D Destroyer Makes Maiden Appearance in Maritime Exercise," *Global Times*, March 30, 2021; Liu Zhen, "Chinese Navy Sails New Destroyers in South China Sea Amid Military Shipbuilding Spree," *South China Morning Post*, June 15, 2021.

[86] Source: Unclassified ONI information paper prepared for Senate Armed Services Committee, subject "UPDATED China: Naval Construction Trends vis-à-vis U.S. Navy Shipbuilding Plans, 2020-2030," February 2020, p. 4. Provided by Senate Armed Services Committee to CRS and CBO on March 4, 2020, and used in this CRS report with the committee's permission. For a press article discussing the potential features of China's next frigate design beyond the Type 054A, see Rick Joe, "What Will the Chinese Navy's Next Frigate Look Like?" *Diplomat*, May 15, 2020.

[87] Liu Xuanzun, "Type 054A Frigate Good Choice to Expand PLA Naval Fleet and Boost Combat Preparedness: Experts," *Global Times*, August 12, 2021.

An open tender for super high-strength structural steel – the kind used in military hulls – was issued by the Huangpu Wenchong shipyard in Guangzhou, southern China, in March, with a delivery date of May 20.

It is unclear how many tonnes of the CCS-B structural steel plate were ordered by the shipyard, a subsidiary of the China State Shipbuilding Corporation (CSSC).

Several military commentators have taken to Chinese social media platforms to suggest the order could signal that work is about to begin on a bigger, faster multi-role update of the Type 054A, better suited to combat operations on the high seas.[88]

Figure 21. *Jiangkai II* (Type 054A) Frigate

Source: Cropped version of photograph from Chinese Military Review, "Type 054A (Jiangkai II class) FFG-546 Yancheng Guided Missile Frigate in Mediterranean," undated (but with a URL suggesting that it was posted in February of 2014), accessed August 29, 2018.

Type 056 Corvette

China has also built—in large numbers over a relatively short time period—a new type of corvette (i.e., a light frigate, or FFL) called the Jiangdao class or Type 056 (**Figure 22**), which reportedly displaces 1,300 tons to 1,500 tons.[89] Type 056 ships were built at a high annual rate in four shipyards—the first was commissioned in 2013, and the 72nd and final ship of the type was reportedly commissioned in early 2021, implying an average commisisoning rate of about eight ships per year. DOD states that China's navy "commissioned the 72nd JIANGDAO [class

[88] Minnie Chan, "China Naval Steel Order Sparks Speculation over Bigger, Faster Frigate," *South China Morning Post*, May 7, 2022.

[89] For an overview of the Type 056 corvette, see Eric Wertheim, "China's Jiangdao-class Corvette: Mainstay of the First Island Chain," *U.S. Naval Institute Proceedings*, September 2022.

corvette] in February 2021, completing the production run. The PLAN also transferred the early flight JIANGDAO variants, likely 22 ships total, to the China Coast Guard in 2021, probably due to the models' lack of [a] towed-array sonar. The 056A FFLs are equipped with a towed-array sonar and are thus capable ASW ships."[90] As shown in **Table 1**, the rapid growth in the number of Type 056 corvettes since 2013 accounts for a substantial share of the net increase in the total number of ships in China's navy since 2013.

Figure 22. *Jingdao* (Type 056) Corvette

Source: Cropped version of image included at Chinese Military Review, "Random Images of Chinese Type 056 Jiangdao Class Light Corvette," undated (but with a URL suggesting that it was posted in October 2013), accessed August 29, 2018.

Amphibious Ships[91]

Type 071 Amphibious Ship

China's new *Yuzhao* or Type 071 amphibious ships (**Figure 23**) have an estimated displacement of more than 19,855 tons,[92] compared to about 25,900 tons for the U.S. Navy's new San Antonio (LPD-17) class amphibious ships. A May 6, 2021, press report states that the eighth Type 071 ship "recently made its first publicly known maritime exercise appearance."[93]

[90] *2022 DOD CMSD*, p. 53.

[91] For an article providing a brief overview of China's amphibious shipbuilding programs, see Yasmin Tadjdeh, "China Building Formidable Amphibious Fleet," *National Defense*, June 25, 2021.

[92] Unless otherwise indicated, displacement figures cited in this report are full load displacements. *IHS Jane's Fighting Ships 2017-2018*, p. 156, does not provide a full load displacement for the Type 071 class design. Instead, it provides a standard displacement of 19,855 tons. Full load displacement is larger than standard displacement, so the full load displacement of the Type 071 design is more than 19,855 tons.

[93] Liu Xuanzun, "China's Newly Commissioned Amphibious Landing Ship Joins Exercises, 'to Form Powerful Partnership with Amphibious Assault Ship,'" *Global Times*, May 6, 2021.

Figure 23. *Yuzhao* (Type 071) Amphibious Ship

Source: Cropped version of photograph from Chinese Military Review, "Jinggang Shan (999) Type 071 YUZHAO Class Amphibious Transport Dock," undated (but with a URL suggesting that it was posted in February 2012), accessed August 29, 2018.

Type 075 Amphibious Assault Ship

In April 2021, China commissioned into service the first of a new type of amphibious assault ship,[94] called the *Yushen* or Type 075 (**Figure 24** and **Figure 25**), that has an estimated displacement of about 35,000 tons, compared to 41,000 to 45,000 tons for U.S. Navy LHA/LHD-type amphibious assault ships.[95] In March 2022, it was reported that the first Type 075 ship had achieved initial operational capability (IOC),[96] although that term might not mean the same as it does when used by DOD in connection with U.S. weapon systems.

The second Type 075 ship reportedly was commissioned into service in late December 2021.[97] The third was reportedly commissioned on or perhaps a few days prior to October 1, 2022.[98]

[94] Amphibious assault ships, also referred to as helicopter carriers or (in British parlance) commando carriers, look like medium-sized aircraft carriers. U.S. Navy amphibious assault ships are designated LHA or LHD.

[95] See, for example, Mike Yeo, "China simultaneously commissions three warships on Navy anniversary," *Defense News*, April 26, 2021. For an in-depth discussion of the Type 075 design, see Conor M. Kennedy and Daniel Caldwell, *The Type 075 LHD: Development, Missions, and Capabilities*, China Maritime Studies Institute (CMSI), U.S. Naval War College, China Maritime Report No. 23, October 2022, 45 pp.

[96] Liu Xuanzun, "China's 1st Amphibious Assault Ship Reaches Initial Operating Capability, To Make World Tour," *Global Times*, March 2, 2022; Ridzwan Rahmat, "China's First Type 075 Amphibious Assault Ship Achieves Initial Operating Capability," *Jane's Defence Weekly*, March 4, 2022.

[97] Xavier Vavasseur, "China's 2nd Type 075 LHD Guangxi 广西 Commissioned With PLAN," *Naval News*, December 30, 2021.

[98] Xavier Vavasseur, "China's 3rd Type 075 LHD Anhui 安徽 Commissioned With PLAN," *Naval News*, October 1, 2022.

Figure 24. Type 075 Amphibious Assault Ship

Source: Photograph accompanying David Axe, "China Is Finishing Its First Large Helicopter Assault Ship," *National Interest*, October 29, 2019.

In July 2020, it was reported that China might be planning to build the first of a new class of amphibious assault ships, called the Type 076 by observers (**Figure 26** and **Figure 27**), that would be equipped with electromagnetic catapults, which would enhance its ability to support operations by fixed-wing aircraft and make it somewhat more like an aircraft carrier.[99]

Amphibious Ship Roles and Missions

Although larger amphibious ships such as the Type 071 and Type 075 would be of value for conducting amphibious landings in Taiwan-related conflict scenarios, some observers believe that China is building such ships as much for their value in conducting other operations, such as operations for asserting and defending China's claims in the South and East China Seas, humanitarian assistance/disaster relief (HA/DR) operations, maritime security operations (such as antipiracy operations), and noncombatant evacuation operations (NEOs). Politically, amphibious ships can also be used for naval diplomacy (i.e., port calls and engagement activities) and for impressing or intimidating foreign observers.[100]

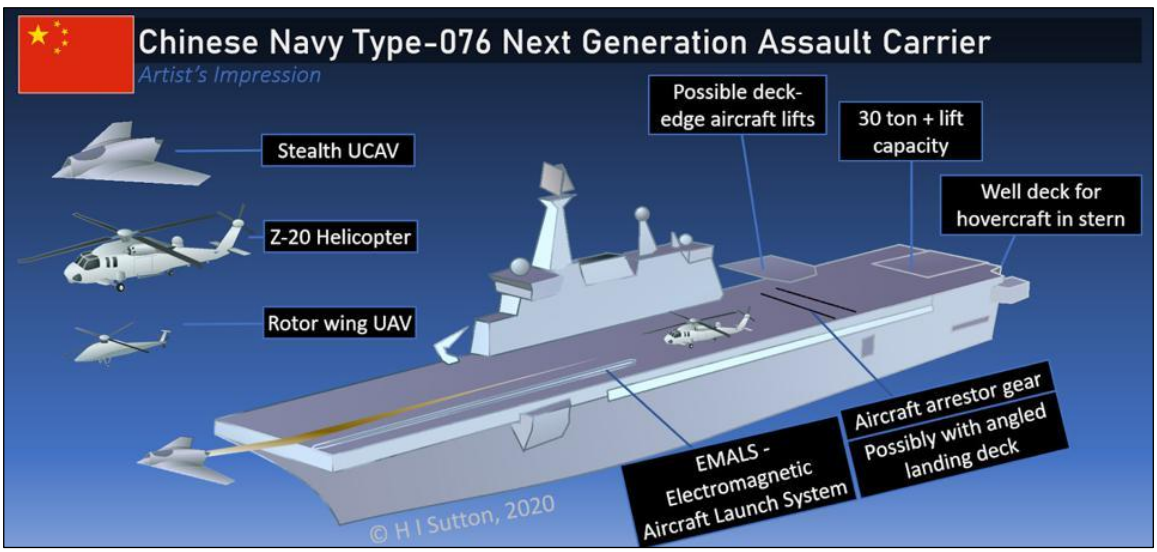
[99] H. I. Sutton, "Stealth UAVs Could Give China's Type-076 Assault Carrier More Firepower," *Forbes*, July 23, 2020; Kathrin Hille, "China Plans Hybrid Assault Vessel to Strengthen Overseas Power," *Financial Times*, July 24, 2020; Minnie Chan, "Chinese Shipbuilder Planning Advanced Amphibious Assault Ship," *South China Morning Post*, July 27 (updated July 28), 2020; Rick Joe, "Whispers of 076, China's Drone Carrying Assault Carrier," *Diplomat*, August 21, 2020.

[100] See, for example, Grant Newsham, "China's Amphibious Force Emerges," *Asia Times*, November 5, 2019.

Figure 25. Type 075 Amphibious Assault Ship

Source: Photograph accompanying Liu Zhen, "Chinese Military's First Type 075 Amphibious Assault Ship Begins Sea Trial," *South China Morning Post*, August 7, 2020. The article credits the photograph to Weibo. Possible Type 076 Catapult-Equipped Amphibious Assault Ship.

Figure 26. Notional Rendering of Possible Type 076 Amphibious Assault Ship



Source: Illustration accompanying H. I. Sutton, "Stealth UAVs Could Give China's Type-076 Assault Carrier More Firepower," *Forbes*, July 23, 2020.

Figure 27. Notional Rendering of Possible Type 076 Amphibious Assault Ship

Source: Illustration accompanying Minnie Chan, "Chinese Shipbuilder Planning Advanced Amphibious Assault Ship," *South China Morning Post*, July 27 (updated July 28), 2020.

Potential Use of Commercial Ships

In assessing China's capacity for conducting an amphibious invasion of Taiwan, some observers have focused on China's potential for using civilian ferries and other commercial ships to augment the transport and landing capacity of China's amphibious ships. Reported Chinese exercises indicate that China is exploring and testing this concept.[101]

[101] See, for example, Parth Satam, "Civilian Ship Armed With Tanks—Scary Images Reveal China's 'Notorious Plan' To Invade & Annex Taiwan," *Eurasian Times*, November 8, 2022; Thomas Shugart, "Mind the Gap, Part 2: The Cross-Strait Potential of China's Civilian Shipping Has Grown," *War on the Rocks*, October 12, 2022; H I Sutton and Sam LaGrone, "Chinese Launch Assault Craft from Civilian Car Ferries in Mass Amphibious Invasion Drill, Satellite Photos Show," *USNI News*, September 28, 2022; Bethany Dawson, "China Is Using a Stealth Fleet of Fishing Boats and Ferries to Boost Its Naval Power, Say Military Experts," *Business Insider*, September 24, 2022; David Rising, "China Using Civilian Ships to Enhance Navy Capability, Reach," *Associated Press*, September 24, 2022; Thomas Shugart, "Mind The Gap: How China's Civilian Shipping Could Enable a Taiwan Invasion," *War on the Rocks*, August 16, 2022; J. Michael Dahm, *Chinese Ferry Tales, The PLA's Use of Civilian Shipping in Support of Over-the-Shore Logistics*, China Maritime Studies Institute (CMSI), U.S. Naval War College, China Maritime Report No. 16, November 2021, 56 pp.; Brian Waidelich, Patrick deGategno, Timothy Ditter, and Thomas Bickford, *Chinese Views of Civilian Ship Mobilization*, DSI-2021-U-030614-Final, CNA, November 10, 2021, 2 pp. (with a note indicating that it is a summary based on the full-length CNA report, *Chinese Views of Civilian Ships' Support to PLA Maritime Operati*ons, DRM2021-C-029795-Final); Kris Osborn, "Could China's Civilian Ferries Play a Role in a Taiwan Invasion?" *National Interest*, October 21, 2021; Keoni Everington, "Video Shows Ship Packed with Chinese Tanks for 'Future Battlefield' in Taiwan," *Taiwan News*, October 18, 2021; Michael Dahm and Conor M. Kennedy, "Civilian Shipping: Ferrying the People's Liberation Army Ashore," Center for International Maritime Security (CIMSEC), September 9, 2021; Chris Horton, "China Mobilizes Civilian Ferries for Taiwan Invasion Drills," *Nikkei Asia*, August 25, 2021; Andrew Tate, "Chinese Military Using Commercial Ro-Ro Shipping to Enhance Its Amphibious Capabilities," *Jane's*, August 23, 2021; Thomas Shugart, "Mind the Gap: How China's Civilian Shipping Could Enable a Taiwan Invasion," *War on the Rocks*, August 16, 2021; Mike Yeo, "China Reportedly Converted Civilian Ferries for Amphibious Assault Operations," *Defense News*, August 4, 2021; David Hambling, "China Converts Car Ferries For Amphibious Assault," *Forbes*, July 27, 2021; Courtney Mabeus, "Chinese Navy Using Commercial Car Ferries to Launch Amphibious Landing Craft," *USNI News*, July 26, 2021; Conor Kennedy, "Ramping the Strait: Quick and Dirty Solutions to Boost Amphibious Lift," *China Brief*, July 16, 2021.

Operations Away from Home Waters

Ship Operations

Although China's navy operates primarily in China's home waters, Chinese navy ships are conducting increasing numbers of operations away from China's home waters, including the broader waters of the Western Pacific, the Indian Ocean, and the waters surrounding Europe, including the Mediterranean Sea and the Baltic Sea. A November 23, 2019, DOD news report quoted Admiral Philip Davidson, the commander of the U.S. Indo-Pacific Command, as stating that China's navy had conducted more global naval deployments in the past 30 months than it had in the previous 30 years.[102]

DOD states that "the PLAN's ability to perform missions beyond the First Island Chain is modest but growing as it gains more experience operating in distant waters and acquires larger and more advanced platforms. China's experience in extended range operations primarily comes from extended task group deployments and its ongoing counterpiracy mission in the Gulf of Aden."[103] China has been conducting antipiracy operations in the Gulf of Aden since December 2008 via a succession of more than 40 rotationally deployed naval escort task forces. China's long-distance naval deployments have also been for making diplomatic port calls and conducting training exercises.

Current or Potential Bases Outside China

China's distant naval operations are supported in part by China's military base in Djibouti, which China officially opened in August 2017 as its first overseas military base.[104]

In December 2021, it was reported that China may be seeking to establish a military (including naval) base at a port in Equatorial Guinea, a country located on the Atlantic coast of Africa—a location that could enhance China's ability to conduct naval operations in the Atlantic.[105]

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[102] David Vergun, "Freedom of Navigation in South China Sea Critical to Prosperity, Says Indo-Pacific Commander," *DOD News*, November 23, 2019.

[103] *2022 DOD CMSD*, p. 51.

[104] For discussions of Djibouti and other potential Chinese military bases outside China, see *2022 DOD CMSD*, pp. xii, 143-145; Kathrin Hille, Demetri Sevastopulo, and John Paul Rathbone, "China Denies Building Naval Bases But Fear of Its Military Reach Grows," *Financial Times*, June 19, 2022. Regarding China's military base in Djibouti, see H. I. Sutton, "Satellite Images Show That Chinese Navy Is Expanding Overseas Base," *Forbes*, May 10, 2020; Peter Suciu, "China's Naval Base in Africa Is Getting Bigger. Is a Network of Bases Next?" *National Interest*, May 11, 2020; staff writer, "Chinese Navy Expanding Base in Africa, Satellite Images Confirm," *War Is Boring*, May 11, 2020; Jean-Pierre Cabestan, "China's Djibouti Naval Base Increasing Its Power," *East Asia Forum*, May 16, 2020; Dave Makichuk, "China Builds a Mega-Fortress on the Horn of Africa," *Asia Times*, May 18, 2020; Michael Evans, "Beijing's African Port Ready for Aircraft Carriers," *Times (UK)*, May 19, 2020.

[105] See, for example, Michael M. Phillips, "China Seeks First Military Base on Africa's Atlantic Coast, U.S. Intelligence Finds, Alarmed Officials at the White House and Pentagon Urge Equatorial Guinea to Rebuff Beijing's Overtures," *Wall Street Journal*, December 5, 2021; Bonny Lin, Jude Blanchette, Joseph S. Bermudez Jr., and Mvemba Phezo Dizolele, "Is China Building a New String of Pearls in the Atlantic Ocean?" Center for Strategic and International Studies (CSIS), December 20, 2021; Michael M. Phillips, "U.S. Aims to Thwart China's Plan for Atlantic Base in Africa," *Wall Street Journal*, February 11, 2022; Cobus van Staden, "Fears of a Chinese Naval Base in West Africa Are Overblown," *Foreign Policy*, March 3, 2022; Paul Nantulya, "Considerations for a Prospective New Chinese Naval Base in Africa," Africa Center for Strategic Studies, May 12, 2022.

A June 8, 2022, press report stated, "Cambodian and Chinese officials broke ground on a Beijing-funded expansion of Ream Naval Base on Wednesday [June 8], using the occasion to again reject reports the site will be used by China's military."[106] A June 6, 2022, press report stated

> China is secretly building a naval facility in Cambodia for the exclusive use of its military, with both countries denying that is the case and taking extraordinary measures to conceal the operation, Western officials said. The military presence will be on the northern portion of Cambodia's Ream Naval Base on the Gulf of Thailand....
>
> The Wall Street Journal reported in 2019[107] that China had signed a secret agreement to allow its military to use the base, citing U.S. and allied officials familiar with the matter....
>
> Over the weekend ... a Chinese official in Beijing confirmed to The Washington Post that "a portion of the base" will be used by "the Chinese military....
>
> The two governments have taken pains to mask the presence of the Chinese military at Ream, the official said....
>
> The secrecy around the base appears to be driven primarily by Cambodian sensitivities and concern about a domestic backlash, the second official said.[108]

A security agreement between China and the Solomon Islands that was announced by the Solomon Islands in April 2022 has led some observers to express concern that the agreement could eventually lead to, among other things, the establishment of a Chinese naval base in that country.[109] The Prime Minister of the Solomon Islands ruled out that possibility, stating that it would "put our country and our people as targets for potential military strikes."[110]

U.S. Navy Response

Overview

The U.S. Navy has taken a number of actions to counter China's naval modernization effort. Among other things, the U.S. Navy has

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[106] Shaun Turton and Bopha Phorn, "Cambodia Breaks Ground on China-Funded Ream Naval Base Expansion," *Nikkei Asia*, June 8, 2022.

[107] Jeremy Page, Gordon Lubold, and Rob Taylor, "Deal for Naval Outpost in Cambodia Furthers China's Quest for Military Network," *Wall Street Journal*, July 22, 2019.

[108] Ellen Nakashima and Cate Cadell, "China Secretly Building Naval Facility in Cambodia, Western Officials Say," *Washington Post*, June 6, 2022. See also James R. Holmes, "A Naval Base in Cambodia Supports China's Calibrated Aggression," *The Hill*, June 10, 2022; Niharika Mandhana, Sun Narin, and Chun Han Wong, "China to Upgrade Ream Naval Base in Cambodia, Fueling U.S. Concerns," *Wall Street Journal*, June 8, 2022; Charlie Campbell, "A Chinese Naval Base in Cambodia Signals a New Era of Competition in the Asia-Pacific Region," *Time*, June 7, 2022; "Dredgers Spotted at Cambodia's Ream Naval Base," Asia Maritime Transparency Initiative (AMTI) (Center for Strategic and International Studies [CSIS]), January 21, 2022; RFA Khmer Service, "US calls on Cambodia to explain its plans for Ream Naval Base," *Radio Free Asia*, January 24, 2022.

[109] See, for example, Camilla Pohle-Anderson, "China's Search for a Permanent Military Presence in the Pacific Islands," United States Institute of Peace, July 21, 2022; Damien Cave, "Why a Chinese Security Deal in the Pacific Could Ripple Through the World, In Potentially Opening the Door to a Chinese Military Base, the Solomon Islands Threatens the Balance of Power in a Vital Shipping Region," *New York Times*, April 20, 2022; Ralph Jennings, "Analysts: Chinese Navy to Grow Through 2050, With Emphasis on Hardware," *Voice of America*, April 5, 2022.

[110] See, for example, "Solomons Leader: Chinese Base Would Make His People Targets," *Associated Press*, July 14, 2022; John Feng, "China Military Base in Solomon Islands Ruled Out in Blow to Naval Ambitions," *Newsweek*, July 14, 2022; Lice Movono and Kate Lyons, "Solomon Islands PM Rules Out China Military Base and Says Australia is 'Security Partner of Choice,'" *Guardian*, July 13, 2022.

- shifted a greater percentage of its fleet to the Pacific;[111]
- assigned its most capable new ships and aircraft to the Pacific;
- maintained or increased general presence operations, training and developmental exercises, and engagement and cooperation with allied and other navies in the Indo-Pacific;
- increased the planned future size of the Navy;
- initiated, increased, or accelerated numerous programs for developing new military technologies and acquiring new ships, aircraft, unmanned vehicles, and weapons;
- developed new operational concepts (i.e., new ways to employ Navy and Marine Corps forces) for countering Chinese maritime A2/AD forces; and
- signaled that the Navy in coming years will shift to a more distributed fleet architecture that will feature a substantially greater use of unmanned vehicles.

Some of the above items are discussed in more detail below.

Cooperation with Naval Forces of Allies and Other Countries

U.S. Navy efforts to increase cooperation with naval forces from allies such as Japan and Australia and other countries such India appear aimed in part at expanding existing bilateral forms of naval cooperation (e.g., U.S.-Japan, U.S.-Australia, U.S.-India) into trilateral (e.g., U.S.-Japan-Australia, U.S.-Australia-India) or quadrilateral (U.S.-Japan-Australia-India) forms that could enhance the ability of the United States and its allies in the Indo-Pacific region to balance against China's growing military capabilities and deter potential assertive actions by China.[112]

A June 15, 2021, press report stated

> The Pentagon is considering establishing a permanent naval task force in the Pacific region as a counter to China's growing military might, according to two people familiar with internal discussions.
>
> The plan would also involve creating a named military operation for the Pacific that would enable the defense secretary to allocate additional dollars and resources to the China problem, said the people, who requested anonymity to discuss pre-decisional plans.
>
> The two initiatives, which are not yet finalized, would add muscle to President Joe Biden's tough talk on China and send a signal that the new U.S. administration is serious about cracking down on Beijing's military buildup and aggressive behavior in the Pacific region.

[111] Efforts in this regard began at least as far back as 2006: The final report on the 2006 Quadrennial Defense Review (QDR) directed the Navy "to adjust its force posture and basing to provide at least six operationally available and sustainable carriers and 60% of its submarines in the Pacific to support engagement, presence and deterrence." (U.S. Department of Defense, *Quadrennial Defense Review Report*. Washington, 2006. February 6, 2006, p. 47.) Subsequent to this directive, the Navy announced an intention to increase to 60% (from a starting point of about 55%) the percentage of the fleet as a whole that is assigned to the Pacific. An October 13, 2021, press report stated, "US Naval Chief of Operations, Admiral Michael Gilday, on Tuesday kicked off his 5-day visit to India by meeting his Indian counterpart Admiral Karambir Singh, Chief of Defence Staff General Bipin Rawat and other senior government officials.... Asked about what the US intends to do to counter China's aggressive modernisation of its Navy, Gilday said they will not try to outspend it, but partners like India in the region will be the key to ensure that the Indian Ocean Region (IOR) is stable. Given the importance of the region, 60 per cent of US Navy's forces are now in the Indo-Pacific, he said." (Krishn Kaushik, "60% Navy Forces in Indo-Pacific Region Now: US Navy Chief," *Indian Express*, October 13, 2021.)

[112] For additional discussion, see CRS In Focus IF11678, *The "Quad": Security Cooperation Among the United States, Japan, India, and Australia*, coordinated by Emma Chanlett-Avery.

> The news comes as NATO leaders are increasingly aligning themselves with Washington's confrontational stance on Beijing. Four years after former President Donald Trump made countering China a top foreign policy priority, NATO allies this week declared Beijing a security challenge and said the Chinese are working to undermine global order.
>
> The discussions grew out of work by the Pentagon's China Task Force, which Biden commissioned in March to examine the department's China-related policies and processes. The group, led by Ely Ratner, the nominee to serve as the Pentagon's top Indo-Pacific policy official, recently completed its work and presented recommendations to Defense Secretary Lloyd Austin.
>
> A defense official, responding to a request for comment, stressed that none of the plans stemming from the China task force are finalized….
>
> The naval task force would be modeled on a construct NATO launched in Europe leading up to and during the Cold War, the Standing Naval Forces Atlantic, the people familiar with the discussions told POLITICO. The squadron was an immediate reaction force that could rapidly respond to a crisis but spent most of its time steaming around the region, participating in scheduled exercises and making goodwill port calls. Six to 10 ships from multiple NATO nations—destroyers, frigates and auxiliaries—were typically attached to the force for up to six months.
>
> The European task force allowed those nations to "maximize their influence at sea and to specialize their investments simultaneously," said Jerry Hendrix, an analyst for consulting firm Telemus Group and the author of "To Provide and Maintain a Navy". He noted that an effective Pacific task force would also include European allies such as Britain and France, who are increasing their Pacific naval presence, as well as Japan and Australia.
>
> The proposed initiative would be a "deterrent because it demonstrates a unity of effort in countering Chinese excessive threats to the concept of a free sea and free trade with their large territorial sea claims," Hendrix said.
>
> It's not yet clear whether the task force would involve only U.S. ships, or include other nations' militaries as well, the people said.[113]

Size of Navy, Fleet Architecture, and Operational Concepts

As discussed in greater detail in another CRS report,[114] the Navy's existing force-level goal, which the Navy released on December 15, 2016, calls for achieving and maintaining a fleet of 355 ships—an increase of 47 ships over the previous 308-ship force-level goal of March 2015.

The Navy and DOD have been working since 2019 to develop a new force-level goal to replace the 355-ship force-level goal. Remarks from Navy and DOD officials since 2019 have indicated that the Navy's next force-level goal will introduce a once-in-a-generation change in fleet architecture, meaning basic the types of ships that make up the Navy and how these ships are used in combination with one another to perform Navy missions. This new fleet architecture is to be more distributed than the fleet architecture reflected in the 355-ship goal or previous Navy force-level goals. In particular, the new fleet architecture is expected to feature a new third tier of surface vessels about as large as corvettes or large patrol craft that will be either lightly manned, optionally manned, or unmanned, as well as large unmanned underwater vehicles (UUVs).

[113] Lara Seligman, "Pentagon Considering Permanent Naval Task Force to Counter China in the Pacific," *Politico*, June 15, 2021.

[114] CRS Report RL32665, *Navy Force Structure and Shipbuilding Plans: Background and Issues for Congress*, by Ronald O'Rourke.

Navy and DOD leaders believe that shifting to a more distributed fleet architecture is

- **operationally necessary**, to respond effectively to the improving maritime anti-access/area-denial (A2/AD) capabilities of other countries, particularly China;[115]
- **technically feasible** as a result of advances in technologies for UVs and for networking widely distributed maritime forces that include significant numbers of UVs; and
- **affordable**—no more expensive, and possibly less expensive, than the current fleet architecture for a given level of overall fleet capability, so as to fit within expected future Navy budgets.

Regarding the first point above, shifting to a more distributed force architecture, Navy and Marine Corps officials have indicated, will support implementation of the Navy and Marine Corps' new overarching operational concept, called Distributed Maritime Operations (DMO), and a supporting Marine Corps operational concept called Expeditionary Advanced Base Operations (EABO).[116] A key aim of DMO and EABO is to improve the ability of the Navy and Marine Corps to counter China's improving maritime military capabilities.

Some elements of the Navy's new, more distributed fleet architecture are reflected in Navy budget submission, including the following:

- procurement of Constellation (FFG-62) class frigates;[117]
- development of a smaller amphibious warship called the Light Amphibious Warship (LAW);[118]
- development of a smaller resupply ship called the Next-Generation Medium Logistics Ship;[119]

[115] See, for example, David B. Larter, "With China Gunning for Aircraft Carriers, US Navy Says It Must Change How It Fights," *Defense News*, December 6, 2019; Arthur H. Barber, "Redesign the Fleet," *U.S. Naval Institute Proceedings*, January 2019. Some observers have long urged the Navy to shift to a more distributed fleet architecture, on the grounds that the Navy's current architecture—which concentrates much of the fleet's capability into a relatively limited number of individually larger and more expensive surface ships—is increasingly vulnerable to attack by the improving A2/AD capabilities (particularly anti-ship missiles and their supporting detection and targeting systems) of potential adversaries, particularly China. Shifting to a more distributed architecture, these observers have argued, would

- complicate an adversary's targeting challenge by presenting the adversary with a larger number of Navy units to detect, identify, and track;
- reduce the loss in aggregate Navy capability that would result from the destruction of an individual Navy platform;
- give U.S. leaders the option of deploying USVs and UUVs in wartime to sea locations that would be tactically advantageous but too risky for manned ships; and
- increase the modularity and reconfigurability of the fleet for adapting to changing mission needs.

For more on China's maritime A2/AD capabilities, see CRS Report RL33153, *China Naval Modernization: Implications for U.S. Navy Capabilities—Background and Issues for Congress*, by Ronald O'Rourke.

[116] For more on DMO, see, for example, Edward Lundquist, "DMO is Navy's Operational Approach to Winning the High-End Fight at Sea," *Seapower*, February 2, 2021. For more on EABO, see CRS Report R46374, *Navy Light Amphibious Warship (LAW) Program: Background and Issues for Congress*, by Ronald O'Rourke.

[117] For more on the FFG-62 program, see CRS Report R44972, *Navy Constellation (FFG-62) Class Frigate Program: Background and Issues for Congress*, by Ronald O'Rourke.

[118] For more on the LAW program, see CRS Report R46374, *Navy Light Amphibious Warship (LAW) Program: Background and Issues for Congress*, by Ronald O'Rourke.

[119] For more on the next-generation Medium Logistics Ship, see, for example, Megan Eckstein, "Navy Researching New Class of Medium Amphibious Ship, New Logistics Ships," *USNI News*, February 20, 2020; Rich Abott, "FY 2021

- development of two types of larger USVs—Large USVs (LUSVs) and Medium USVs (MUSVs);[120] and
- procurement of large UUVs called Extra Large UUVs (XLUUVs).[121]

Programs for Acquiring Highly Capable Ships, Aircraft, and Weapons

Many of the Navy's programs for acquiring highly capable ships, aircraft, and weapon systems can be viewed as intended, at least in part, at improving the U.S. Navy's ability to counter Chinese maritime A2/AD capabilities. Examples of new technologies being developed by the Navy that might be of value in countering Chinese maritime A2/AD capabilities include the above-mentioned large UVs[122] as well as lasers.[123]

Issues for Congress

Overview

The overall issue for Congress is whether to approve, reject, or modify the Biden Administration's proposed U.S. Navy plans, budgets, and programs for responding to China's naval modernization effort. Within this overall issue, specific issues include the following:

- the current and potential future U.S.-China balance of naval power in general, and in specific geographic areas, particularly the South China Sea;
- whether the planned size of the Navy will be appropriate for countering China's naval modernization effort in coming years while also permitting the Navy to perform other missions, including countering Russian military forces and defending U.S. interests in the Middle East;
- whether Navy shipbuilding plans and Navy plans for keeping existing Navy ships in service are consistent with the goal of increasing the size of the Navy toward a total of 355 ships or a successor force-level goal;
- whether the Navy should shift to a more-distributed fleet architecture so as to improve the Navy's ability to avoid and withstand attack from Chinese maritime A2/AD forces—and if so, what that new architecture should look like, and how quickly the Navy should shift to it;
- whether the Navy is doing enough to
  - improve its ability to counter China's ASBMs, hypersonic weapons, or other maritime A2/AD weapons, such as wake-homing torpedoes;

Request Starts Work on Future Amphibs and Logistics Ships," *Defense Daily*, February 20, 2020; Justin Katz, "Navy Announces 'Next Generation Logistics Ship' Program with June 25 Industry Day," *Inside Defense*, May 14, 2020; Paul McLeary, "No Shipbuilding Plan, But Navy Works On New Ships To Counter China," *Breaking Defense*, May 18, 2020.

[120] For more on the LUSV and XLUUV programs, see CRS Report R45757, *Navy Large Unmanned Surface and Undersea Vehicles: Background and Issues for Congress*, by Ronald O'Rourke.

[121] For more on the XLUUV program, see CRS Report R45757, *Navy Large Unmanned Surface and Undersea Vehicles: Background and Issues for Congress*, by Ronald O'Rourke.

[122] For more on these efforts, see CRS Report R45757, *Navy Large Unmanned Surface and Undersea Vehicles: Background and Issues for Congress*, by Ronald O'Rourke.

[123] For more on Navy laser programs, see CRS Report R44175, *Navy Lasers, Railgun, and Gun-Launched Guided Projectile: Background and Issues for Congress*, by Ronald O'Rourke.

- develop and procure new ASCMs with ranges that match or exceed those of China's longer-ranged ASCMs;
- increase the operating range of Navy carrier air wings, so as to improve the ability of carriers and their air wings to achieve effects while operating at longer distances from Chinese ASBMs and other A2/AD weapons; and

- whether Congress should modify acquisition policies or the metrics for judging the success of acquisition programs so as to facilitate faster development of new technologies and weapons for the Navy—and if so, how those policies or metrics should be modified.

U.S.-China Balance of Naval Power

Regarding the U.S.-China balance of naval power in general, U.S. and other observers generally assess that while the United States today has more naval capability overall, China's naval modernization effort since the 1990s has substantially reduced the U.S. advantage, and that if current U.S. and Chinese naval capability trends (such as those shown in **Table 1** and **Table 2**) do not change, China might eventually draw even with or surpass the United States in overall naval capability. In remarks to a conference on November 3, 2022, for example, Admiral Charles A. Richard, commander of U.S. Strategic Command, stated

> As I assess our level of deterrence against China, the ship is slowly sinking. It is sinking slowly, but it is sinking, as fundamentally they are putting capability in the field faster than we are. As those curves keep going, it isn't going to matter how good our [operating plan] is or how good our commanders are, or how good our forces are—we're not going to have enough of them. And that is a very near-term problem....
>
> Undersea capabilities is still the one ... maybe the only true asymmetric advantage we still have against our opponents. But unless we pick up the pace, in terms of getting our maintenance problems fixed, getting new construction going ... if we can't figure that out ... we are not going to put ourselves in a good position to maintain strategic deterrence and national defense.[124]

Regarding the U.S.-China naval balance of power specifically in the South China Sea, some observers are concerned that China has already drawn even with or even surpassed the United States. U.S. Navy Admiral Philip Davidson, in responses to advance policy questions from the Senate Armed Services Committee for an April 17, 2018, hearing before the committee to consider nominations, including Davidson's nomination to become Commander, U.S. Pacific Command (PACOM),[125] stated that "China is now capable of controlling the South China Sea in all scenarios short of war with the United States."[126]

Skeptics of assessments like those above might argue that they do not give adequate weight to relative U.S. strengths (and corresponding Chinese relative weaknesses and limitations) in areas such as undersea warfare; personnel quality, training, and initiative; operational experience

[124] C. Todd Lopez, "Stratcom Commander Says U.S. Should Look to 1950s to Regain Competitive Edge," *DOD News*, November 3, 2022. (Material in brackets and ellipses as in original.) Admiral Richard's remarks are quoted similarly in Oliver Parken and Tyler Rogoway, "Extremely Ominous Warning About China From US Strategic Command Chief, Admiral Richard Says 'The Big One' with China Is Coming and the "Ship Is Slowly Sinking" in Terms of U.S. Deterrence," *The Drive*, November 6, 2022; and Max Hauptman, "US Strategic Command Chief: Ukraine 'Just the Warmup' for 'the Big One' with China," *Task & Purpose*, November 8, 2022.

[125] The name of the command has since been changed to the U.S. Indo-Pacific Command (INDOPACOM).

[126] Advance Policy Questions for Admiral Philip Davidson, USN Expected Nominee for Commander, U.S. Pacific Command, p. 18. See also pp. 8, 16, 17, 19, and 43.

(particularly in combat situations); joint operations with other U.S. military services; and potential support from allies and partners, particularly Japan and Australia. A March 5, 2021, press report, for example, states

> While China is expected to field 400 ships by 2025, the goal of the current US Navy shipbuilding plan, a goal with no fixed date, is for a fleet of 355—a substantial numerical disadvantage.
>
> That's not to say the US Navy has seen its days as the world's premier fighting force come to an end.
>
> When counting troops, the US Navy is bigger, with more than 330,000 active duty personnel to China's 250,000.
>
> Analysts point out several other factors in Washington's favor.
>
> The US Navy still fields more tonnage—bigger and heavier armed ships like guided-missile destroyers and cruisers—than China. Those ships give the US a significant edge in cruise missile launch capability.
>
> The US has more than 9,000 vertical launch missile cells on its surface ships to China's 1,000 or so, according to Nick Childs, a defense analyst at the International Institute for Strategic Studies.
>
> Meanwhile, the US attack submarine fleet of 50 boats is entirely nuclear powered, giving it significant range and endurance advantages over a Chinese fleet that has just seven nuclear-powered subs in its fleet of 62.[127]

Concern About Davidson Window/Decade of Concern

Some Members of Congress and other U.S. observers are concerned about the possibility that China might attack Taiwan sometime between 2021 and 2027 (a timeframe sometimes referred to as the Davidson window)[128] or between 2020 and 2030 (a timeframe sometimes referred to as the

[127] Brad Lendon, "China Has Built the World's Largest Navy. Now What's Beijing Going to Do with It?" *CNN*, March 5, 2021.

[128] At a March 9, 2021, hearing before the Senate Armed Services Committee, Admiral Philip S. Davidson, Commander, U.S. Indo-Pacific Command (USINDOPACOM), when asked about a timeline for a potential conflict in the Taiwan Strait, replied:

> I think our concerns are manifest here during this decade not only on the development, the number of ships, aircraft, rockets, etc. that they have—that they have put in the field but the way they are advancing those capabilities as well in combination with everything that you just cited Hong Kong and Tibet and line of actual control in the South China Sea, in the East China Sea.
>
> I worry that they are accelerating their ambitions to be—to supplant the United States and our leadership role in a rules-based international order which they have long said that they want to do that by 2050. I'm worried about the moving that target closer. Taiwan is clearly one of their ambitions before that, and I think the threat is manifest during this decade, in fact, in the next six years.
>
> (CQ transcript of hearing. See also, for example, Mallory Shelbourne, "Davidson: China Could Try to Take Control of Taiwan In 'Next Six Years,'" *USNI News*, March 9, 2021; Adela Suliman, "China Could Invade Taiwan in the Next 6 Years, Assume Global Leadership Role, U.S. Admiral Warns," *NBC News*, March 10, 2021.)

The period between 2021 and 2027 subsequently came to be referred to by some observers as the Davidson window. Possibly the earliest user of the term was Jerry Hendrix; see for example, Jerry Hendrix, "Closing the Davidson Window," *Real Clear Defense*, July 3, 2021.

decade of concern),[129] and about the readiness the U.S. military, including the U.S. Navy, for a conflict in that timeframe. A March 6, 2021, press report, for example, stated

> China could soon be emboldened to try to "forcibly change" the existing order in the western Pacific, the head of U.S. Indo-Pacific Command said.
>
> As its rapidly advancing military approaches "overmatch" with the United States in the region, and absent a convincing deterrent, China could make a move this decade.
>
> "Make no mistake about it, China seeks a new world order—one with Chinese characteristics as they have often said where Chinese national power is more important than international law," Adm. Phil Davidson said during an American Enterprise Institute forum Thursday [March 4]….
>
> "The most important thing I'd like you all to take away from the discussions |is a fundamental understanding that the period between now and 2026—this decade—is the time horizon in which China is positioned to achieve overmatch in its capability," the Oahu-based commander said.
>
> That's when Beijing could—and he emphasized "could"—"choose to forcibly change the status quo in the region."
>
> Davidson didn't specify what action China might take, but he said with the growing military imbalance comes greater risk that China could move "before our forces might be able to deliver an effective response."[130]

An October 19, 2022, press report stated

> Amid concerns that China could try to reunify the mainland with Taiwan faster than previously anticipated, the United States Navy is also eyeing a more immediate window for a potential conflict over the island, the service's top officer said Wednesday [October 19].
>
> The Navy is still assessing how China's recent 20th Party Congress meeting affects its plans for the fleet, Chief of Naval Operations Adm. Mike Gilday said at a virtual event hosted by the Atlantic Council.
>
> "It's not just what President Xi says, but it's how the Chinese behave and what they do. And what we've seen over the past 20 years is that they have delivered on every promise they've made earlier than they said they were going to deliver on it," Gilday said when asked about the so-called "Davidson window," referring to former U.S. Indo-Pacific Command chief Adm. Phil Davidson testifying to Congress in 2021 that China wanted the capability to seize Taiwan within the next six years.

[129] Possibly the earliest user of the term *decade of concern* was James (Jim) Fanell. See, for example, China's National Sovereignty and the Tightening Noose Around the Senkaku Islands, James E. Fanell, Captain U.S. Navy (Retired), Testimony before Hearing on the Hotspots Along China's Periphery, Panel II: How China Prepares to Fight in Hotspots: East China Sea / Senkaku Islands Contingency Operation, U.S.-China Economic and Security Review Commission, April 13, 2017, p. 3, 25-27, 32; Jim Fanell, "Now Hear This—The Clock is Ticking in China: The Decade of Concern Has Begun," *U.S. Naval Institute Proceedings*, October 2017; China's Global Naval Strategy and Expanding Force Structure: Pathway to Hegemony, Testimony by Captain James Fanell (USN, Ret.) [prepared statement for hearing on China's worldwide military expansion before the House Permanent Select Committee on Intelligence, May 17, 2018], pp. 55-59; Bonnie Girard, "Time to Counter China and Rebuild the US Navy? A Former U.S. Pacific Fleet Naval Intelligence Chief Testifies to Congress on China's Maritime Ambitions," *Diplomat*, May 23, 2018; James E. Fanell, "Asia Rising: China's Global Naval Strategy and Expanding Force Structure," *Naval War College Review*, Winter 2019.

[130] William Cole, "China Could Soon Outgun US in Western Pacific, Indo-Pacific Chief Says," *Honolulu Star-Advertiser*, March 6, 2021.

> "When we talk about the 2027 window, in my mind that has to be a 2022 window or a potentially a 2023 window. I can't rule that out. I don't mean at all to be alarmist by saying that, it's just that we can't wish that away," the CNO added.[131]

Other observers, including some DOD officials, believe a Chinese attack on Taiwan does not appear to be imminent or is not particularly likely to occur in the near term.[132]

For observers who are concerned about the Davidson window or window of concern, given the time needed to build major U.S. Navy warships (typically several years), decisions made now on procuring new ships for the Navy will have only a small impact on the number of ships the Navy will have in service during the Davidson window or the decade of concern. (Decisions made now on procuring new ships for the Navy will primarily impact the number of ships the Navy will have in service in years after the Davidson window or the decade of concern, a time period which is also of potential concern to policymakers.) Options for bolstering Navy capabilities during the Davidson window or the decade of concern focus mostly on matters other than procuring new ships, including but not limited to the following, which are not presented in any particular order:

- keeping existing ships and aircraft in service during the Davidson window or decade of concern rather than retiring them during the Davidson window or decade of concern (while preserving the option of retiring them after the end of the Davidson window or decade of concern);
- increasing the material readiness of existing ships and aircraft, so as to maximize the percentage of them that are available for operations, by working down ship and aircraft maintenance backlogs;
- shifting additional ships, aircraft, weapons, and supplies from the Atlantic theater to the Pacific theater (although the risks of doing that in connection with deterring and responding to Russian actions in the European theater would be a factor to consider);
- upgrading existing ships, aircraft, and weapons, particularly through the installation of improved or additional systems or components that can be quickly switched out or bolted on;
- procuring new aircraft and weapons, if those aircraft and weapons can enter service before the end of the Davidson window or the decade of concern;
- procuring spare parts and supplies and positioning them in the Pacific;
- acting to alleviate bottlenecks or otherwise increase the capacity of the industrial base to produce and/or repair ships, aircraft, weapons, and supplies;

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[131] As quoted in Mallory Shelbourne, "China's Accelerated Timeline to Take Taiwan Pushing Navy in the Pacific, Says CNO Gilday," *USNI News*, October 19, 2022. See also Robert Delaney, "US Navy Should Prepare for an Invasion of Taiwan as Soon as This Year, Fleet Chief Says," *South China Morning Post*, October 20, 2022; Demetri Sevastopulo, "US Navy chief warns China could invade Taiwan before 2024," *Financial Times*, October 20, 2022; Agence France-Presse, " China Could Invade Taiwan This Year, US Admiral Warns," *News.com.au*, October 21, 2022.

[132] See, for example, Meghann Myers and Joe Gould, "Pentagon Sees No Imminent Threat to Taiwan from Chinese Buildup," *Military Times*, November 29, 2022; Jerusalem Post Staff, "US General Mark Milley Says Invading Taiwan Would Be 'Very Difficult' for China," *Jerusalem Post*, November 18, 2022; Derek Grossman, "Xi Jinping Is Not Looking to Go to War over Taiwan Anytime Soon, Little Sign Chinese Leader Is Accelerating Invasion Preparations," *Nikkei Asia*, November 16, 2022; Nick Wadhams, "China Won't Be Able to Attack Taiwan in Near Future, US General Milley Says," *Bloomberg*, November 16, 2022; John Grady, "China Will Increase Pressure on Taiwan in Next Two Years Rather Than Invade, Says Pentagon Official," *USNI News*, November 7, 2022; Briana Reilly, "DOD Policy Chief Doesn't Anticipate Taiwan Invasion in 'Near Term,'" *Inside Defense*, November 4, 2022; Iain Marlow, "'Sloppy' US Talk on China's Threat Worries Some Skeptical Experts," *Bloomberg*, November 3 (updated November 4), 2022.

- hardening air bases and other land-based facilities in the Pacific that support U.S. Navy operations to improve their ability to withstand attack by Chinese missiles or other weapons;
- increasing intelligence, surveillance and reconnaissance (ISR) activities for understanding and monitoring China's naval forces;
- increasing activities for measuring and understanding the physical operating environment in the Pacific;
- increasing the operational proficiency of Navy personnel through training and exercises; and
- increasing operations for demonstrating U.S. Navy capabilities to China and/or perhaps creating uncertainty or confusion in China about U.S. Navy capabilities, concepts of operations, or tactics.

Additional Discussion

Returning to the list of issues presented in the overview section above, the planned size of the Navy and the shift to a more-distributed fleet architecture are discussed in detail in other CRS reports.[133] The issue of the Navy's ability to counter China's ASBMs and hypersonic weapons is discussed in detail in this report in **Appendix B**. The issue of the Navy's ability to counter wake-homing torpedoes may have been made more pressing by the reportedly poor performance of an anti-torpedo torpedo that the Navy was developing as a means for Navy surface ships to counter hard-to-decoy wake-homing torpedoes and other torpedoes. The Navy now reportedly plans to remove the anti-torpedo torpedo system from the ships that were equipped with it.[134]

The Navy has initiated efforts to develop and procure longer-ranged ASCMs, but some observers have expressed frustration that these efforts are not moving quickly enough.[135] In support of its efforts, the Navy testified in April 2022 as follows:

> **Strike Weapons**
>
> The DON continues to focus on delivering a strong balance of offensive strike weapons by maintaining the readiness of our strike weapons inventories, enhancing capacity and performance of existing strike weapons, and developing next-generation strike missile capabilities. Through these efforts, the DON will increase overall force effectiveness and continue to address emerging threats from adversarial forces.
>
> **Tomahawk**

[133] See CRS Report RL32665, *Navy Force Structure and Shipbuilding Plans: Background and Issues for Congress*, by Ronald O'Rourke, and CRS Report R45757, *Navy Large Unmanned Surface and Undersea Vehicles: Background and Issues for Congress*, by Ronald O'Rourke.

[134] For additional discussion, see Alex Lockie, "US Navy Admits Failure on $760 Million Weapon to Protect Its Aircraft Carriers from An Age-Old Threat," *Business Insider*, February 5, 2019; Joseph Trevithick, "The Navy Is Ripping Out Underperforming Anti-Torpedo Torpedoes From Its Supercarriers," *The Drive*, February 5, 2019. For an article advocating certain measures to improve the Navy's ability to counter China's submarines in general, see Walker Mills, Collin Fox, Dylan Phillips-Levine, and Trevor Phillips-Levine, "China's Sub Force Is Growing More Powerful. This Is What the US Navy Needs to Do to Stay Ahead," *Military.com*, November 8, 2021.

[135] See, for example, James Turnwall, "The Navy Is Losing the Missile Arms Race," *U.S. Naval Institute Proceedings*, November 2019. For similar discussions regarding U.S. and Chinese air-to-air missiles, see Douglas Barrie, "Will America's Next Long-Range Air-to-Air Missile Match Up to China's?" *Defense One*, October 22, 2019; Joseph Trevithick, "Meet The AIM-260, The Air Force And Navy's Future Long-Range Air-To-Air Missile," *The Drive*, June 21, 2019; Thomas Newdick, "Testing Of The Secretive New AIM-260 Long-Range Air-To-Air Missile Is Well Underway," *The Drive*, November 22, 2021.

In the FY 2023 budget request, the Department sustains the Tomahawk as the nation's premier all-weather, long-range, survivable deep strike offensive weapon to include new production of and recertification of current inventory into modernized BLK V Tomahawk missiles. BLK V(a) Maritime Strike Tomahawk (MST) provides a long range moving maritime strike capability to meet current and future threats, supporting the Surface Warfare Mission area through the inclusion of a seeker suite in the Tomahawk BLK V missile. The FY 2023 budget request for MST provides continuation of Test and Evaluation (T&E) plans that include missile functional ground testing and missile test flights from a ground launcher apparatus to assess seeker performance, mature and refine seeker algorithms, and provide verification and validation data for Modeling and Simulation. MST IOC is planned for FY 2025. The FY 2023 budget request continues engineering, manufacturing, and development of the Joint Multiple-Effects Warhead System (JMEWS), which will deliver a hardened target penetration capability with the Tomahawk BLK V(b) missile in FY 2027. The FY 2023 budget request continues engineering, manufacturing, and development of the Military Code Global Positioning System (GPS) receiver, which will deliver significant increased resiliency in spoofing and jamming threat environments capability to the Tomahawk BLK V missile in FY 2026.

Offensive Anti-Surface Warfare (OASuW) Increment 1/ Long Range Anti-Ship Missile (LRASM), OASuW Increment 2

The FY 2023 President's Budget requests $226.0 million to fund Long Range Anti-Ship Missile (LRASM) efforts associated with filling congressionally directed Operational Testing, which includes telemetry kit installations and test support. FY 2023 also funds procurement and installations of updated Weapon Data Link to satisfy compliance of NSA crypto modification mandate, and procures 60 DON LRASM weapon systems. The FY 2023 President's Budget also requests $12.8 million for completion of the LRASM 1.1 capability improvements.

The FY 2023 President's Budget requests New Start authority to begin Technology Development in support of OASuW Increment 2, now referred as Hypersonic Air Launched OASuW (HALO). HALO supports the national imperative to mature hypersonic capabilities. The program represents a longer-term capability that encompasses increased performance and will provide the Navy a necessary air launched, carrier based weapon to address evolving long range high speed threats from near peer competitors. In order to deliver this capability to the warfighter when needed, the Navy will collaborate heavily with the USAF.

Advanced Anti-Radiation Guided Missile (AARGM) & AARGM Extended-Range

AARGM procurement completed in FY 2021 with the award of the last DON Full Rate Production (FRP) contract. There have been 1366 AARGMs (All Up Rounds, Training Missiles, and Spares) delivered to the Fleet (as of March 2022). Program of record delivery is 1803 missiles. Deliveries continue through FY 2024 in support of the transition to AARGM-ER. AARGM-ER provides the DON with a 5th generation compatible extended range asset to project power and provide Suppression of Enemy Air Defenses, both at-sea and on land. The FY 2023 President's Budget requests $90.8 million in RDT&E to support operational and Integration testing of production representative hardware. The FY 2023 President's Budget requests $131.3 million in WPN to procure 69 AARGM-ER All Up Rounds and six Captive Air Training Missiles.[136]

[136] Statement of Frederick J. Stefany, Principal Civilian Deputy, Assistant Secretary of the Navy (Research, Development and Acquisition), Performing the Duties of the Assistant Secretary of the Navy (Research, Development and Acquisition) and Vice Admiral Scott Conn, Deputy Chief of Naval Operations, Warfighting Requirements and Capabilities (OPNAV N9) and Lieutenant General Karsten S. Heckl, Deputy Commandant, Combat Development and Integration, Commanding General, Marine Corps Combat Development Command, before the Subcommittee on

An April 19, 2021, press report stated, "Exposing a new layer of long-range striking power for the U.S. Navy carrier battle group, a photo obtained by Aerospace Daily shows what appears to be a Raytheon RIM-174 SM-6 missile integrated on a left wing pylon of a Boeing F/A-18F Super Hornet in flight."[137]

The issue of the operating range of Navy carrier air wings is a key component of an ongoing debate over the future survivability, utility, and cost-effectiveness of aircraft carriers and their air wings, with critics arguing that the current operating range of Navy carrier air wings will force Navy aircraft carriers to operate well within the ranges of Chinese ASBMs or other A2/AD systems, which could put the carriers' survivability at substantial risk, or alternatively require carriers to operate beyond the range of those Chinese A2/AD systems, in locations that are safer but so far away that the carriers and their air wings will contribute little combat capability.

A key U.S. Navy program for increasing the operating range of Navy carrier air wings is the MQ-25 Stingray program, which is a program to acquire a carrier-based unmanned aerial vehicle (UAV) for use as a tanker for in-flight refueling of manned carrier-based aircraft (with a secondary mission of intelligence, surveillance, and reconnaissance). Some observers, while not necessarily objecting to the MQ-25 program, argue that the Navy should do more to increase the operating range of Navy carrier air wings, such as developing a stealthy, carrier-based UAV capable of penetrating enemy air defenses and striking land targets at very long ranges.

The issue of acquisition policies and the metrics for judging their success is discussed in more detail in another CRS report.[138]

Legislative Activity for FY2023

Coverage in Related CRS Reports

A variety of CRS reports cover U.S. Navy programs that in varying degrees can be viewed as responses to, at least in part, China's naval modernization effort. These reports include but are not limited to the following:

- CRS Report RL32665, *Navy Force Structure and Shipbuilding Plans: Background and Issues for Congress*, by Ronald O'Rourke
- CRS Report RL32418, *Navy Virginia (SSN-774) Class Attack Submarine Procurement: Background and Issues for Congress*, by Ronald O'Rourke
- CRS In Focus IF11826, *Navy Next-Generation Attack Submarine (SSN[X]) Program: Background and Issues for Congress*, by Ronald O'Rourke
- CRS Report RS20643, *Navy Ford (CVN-78) Class Aircraft Carrier Program: Background and Issues for Congress*, by Ronald O'Rourke
- CRS Report RL30563, *F-35 Joint Strike Fighter (JSF) Program*, by Jeremiah Gertler (the JSF program is a joint DOD program with Navy participation)

Seapower of the Senate Armed Services Committee on Department of the Navy Fiscal Year 2023 Budget Request for Seapower, April 26, 2022, PDF pages 31-33 of 37. See also Brian Everstine, "New U.S. Navy Weapons Plan Favors Speed Over Range," *Aviation Week*, September 19, 2022.

[137] "The Weekly Debrief: Air-Launched, SM-6-Like Missile Exposed In New Test Photo," *Aviation Week*, April 19, 2021.

[138] See CRS Report R43838, *Renewed Great Power Competition: Implications for Defense—Issues for Congress*, by Ronald O'Rourke.

- CRS Report RL32109, *Navy DDG-51 and DDG-1000 Destroyer Programs: Background and Issues for Congress*, by Ronald O'Rourke
- CRS In Focus IF11679, *Navy DDG(X) Next-Generation Destroyer Program: Background and Issues for Congress*, by Ronald O'Rourke
- CRS Report RL33745, *Navy Aegis Ballistic Missile Defense (BMD) Program: Background and Issues for Congress*, by Ronald O'Rourke
- CRS Report R44972, *Navy Constellation (FFG-62) Class Frigate Program: Background and Issues for Congress*, by Ronald O'Rourke
- CRS Report R46374, *Navy Light Amphibious Warship (LAW) Program: Background and Issues for Congress*, by Ronald O'Rourke
- CRS In Focus IF11674, *Navy Next-Generation Logistics Ship (NGLS) Program: Background and Issues for Congress*, by Ronald O'Rourke
- CRS Report R45757, *Navy Large Unmanned Surface and Undersea Vehicles: Background and Issues for Congress*, by Ronald O'Rourke
- CRS Report R44175, *Navy Lasers, Railgun, and Gun-Launched Guided Projectile: Background and Issues for Congress*, by Ronald O'Rourke

FY2023 National Defense Authorization Act (H.R. 7900/S. 4543)

House

Section 1065 of H.R. 7900 as reported by the House Armed Services Committee (H.Rept. 117-397 of July 1, 2022) states

> SEC. 1065. REPORTS ON EFFECTS OF STRATEGIC COMPETITOR NAVAL FACILITIES IN AFRICA.
>
> (a) INITIAL REPORT.—
>
> (1) IN GENERAL.—Not later than May 15, 2023, the Secretary of Defense shall submit to the appropriate congressional committees a report on the effects on the national security of the United States of current or planned covered naval facilities in Africa.
>
> (2) ELEMENTS.—The report required under paragraph (1) shall include the following:
>
> (A) An identification of—
>
> (i) any location in Africa where a covered naval facility has been established; and
>
> (ii) any location in Africa where a covered naval facility is planned for construction.
>
> (B) A detailed description of—
>
> (i) any agreement entered into between China or Russia and a country or government in Africa providing for or enabling the establishment or operation of a covered naval facility in Africa; and
>
> (ii) any efforts by the Department of Defense to change force posture, deployments, or other activities in Africa as a result of current or planned covered naval facilities in Africa.
>
> (C) An assessment of—
>
> (i) the effect that each current covered naval facility has had on United States interests, allies, and partners in and around Africa;

(ii) the effect that each planned covered naval facility is expected to have on United States interests, allies, and partners in and around Africa;

(iii) the policy objectives of China and Russia in establishing current and future covered naval facilities at the locations identified under subparagraph (A); and

(iv) the specific military capabilities supported by each current or planned covered naval facility.

(b) UPDATE TO REPORT.—

(1) IN GENERAL.—Not later than March 1, 2024, the Secretary of Defense shall submit to the appropriate congressional committees a report containing an update to the report required under subsection (a).

(2) ELEMENTS.—The report required under paragraph (1) shall include the following:

(A) An identification of—

(i) any location in Africa where a covered naval facility has been established since the date of the submittal of the report under subsection (a); and

(ii) any location in Africa where a covered naval facility has been planned for construction since such date.

(B) A detailed description of—

(i) any agreement entered into between China or Russia and country or government in Africa since such date providing for or enabling the establishment of a covered naval facility in Africa; and

(ii) any efforts by the Department of Defense since such date to change force posture, deployments, or other activities in Africa as a result of current or planned covered naval facilities in Africa.

(C) An updated assessment of—

(i) the effect that each current covered naval facility has had on United States interests, allies, and partners in and around Africa since such date;

(ii) the effect that each planned covered naval facility has had on United States interests, allies, and partners in and around Africa since such date;

(iii) the policy objectives of China and Russia, including new objectives and changes to objectives, in establishing current and future covered naval facilities at the locations identified in the report required under subsection (a) or in subparagraph (A); and

(iv) the specific military capabilities supported by each current or planned covered naval facility at such locations, including new capabilities and changes to capabilities.

(D) A detailed description of—

(i) the policy of the Department of Defense surrounding strategic competitor efforts to establish and maintain covered naval facilities in Africa; and

(ii) any actual or planned actions taken by the Department in response to such efforts and in coordination with global Department priorities, as identified in the national defense strategy under section 113(g) of title 10, United States Code.

(c) FORM.—A report required under subsection (a) or (b) shall be submitted in unclassified form without any designation relating to dissemination control, but may include a classified annex.

(d) DEFINITIONS.—In this section:

(1) The term ‘‘Africa’’ means all countries in the area of operations of United States Africa Command and Egypt.

(2) The term ‘‘appropriate congressional committees’’ means—

(A) the Committee on Armed Services, the Committee on Foreign Affairs, and the Permanent Select Committee on Intelligence of the House of Representatives; and

(B) the Committee on Armed Services, the Committee on Foreign Relations, and the Select Committee on Intelligence of the Senate.

(3) The term ‘‘covered naval facility’’ means a naval facility owned, operated, or otherwise controlled by the People’s Republic of China or the Russian Federation.

(4) The term ‘‘naval facility’’ means a naval base, civilian sea port with dual military uses, or other facility intended for the use of warships or other naval vessels for refueling, refitting, resupply, force projection, or other military purposes.

H.Rept. 117-397 states

Report on Air Force counter-maritime strategy

The committee notes the important work the Department of the Air Force is doing to advance its ability to strike maritime targets, to include pursuit of the Joint Air-to-Surface Standoff Missile, and test and integration activities to expand the compatibility of the Long-Range Anti-Ship Missile. However, the committee is concerned that these efforts are moving too slowly, and that wide gaps remain in the Department’s operational concepts, plans, programs, capabilities and capacity for detecting and defeating adversary maritime surface and subsurface forces from air and space at a scale that would be expected in an Indo-Pacific conflict. Therefore, the committee directs the Secretary of the Air Force, in coordination with the Secretary of the Navy and the Secretary of the Army, to prepare a report to the congressional defense committees by March 1, 2023 as to the strategy and implementation plan for conducting counter-maritime operations.

The report shall include:

(1) operational concepts, plans, programs and key enabling technologies for detecting, tracking and defeating a range of adversary maritime vessels, including while underway;

(2) how the Air Force command and control enterprise will support long-range standoff fires for maritime engagements, to include proficient use of data link and joint range extension networks required for dynamic weapons employment;

(3) how the air battle management system will incorporate sensing data for maritime targets;

(4) how the bomber fleet, and specifically the B–21 program of record, accounts for the capacity required for a counter-maritime role in addition to other mission sets, and if not, provide an updated fleet size;

(5) what steps the Air Force will take and what resources are required to establish an inventory in such quantities of appropriate munitions that achieve desired effects in counter-maritime operations;

(6) what capability is needed to engage targets beyond the range of a Joint Direct Attack Munition and inside the range of a Joint Air to Surface Stand-off Missile in a cost effective way and an estimate of the funds necessary to accrue the capability in required quantities;

(7) considerations and modifications required for various platforms to carry munitions for maritime engagement;

(8) what steps the Air Force is taking to ensure its training methods and simulators prepare warfighters for the counter-maritime mission set alongside the Joint force;

(9) an explanation of how the Air Force intends to integrate and leverage Department of the Navy capabilities and technologies in its detection, targeting and engagement methods; and

(10) an overall assessment of funding to include projected shortfalls and alternative near-term funding opportunities in order to rapidly develop, test and field counter-maritime capabilities from now and over the next five years. (Pages 35-36)

Appendix A. Comparing U.S. and Chinese Numbers of Ships and Naval Capabilities

This appendix presents some additional discussion of factors involved in comparing U.S. and Chinese numbers of ships and naval capabilities.

U.S. and Chinese naval capabilities are sometimes compared by showing comparative numbers of U.S. and Chinese ships. Although the total number of ships in a navy (or a navy's aggregate tonnage) is relatively easy to calculate, it is a one-dimensional measure that leaves out numerous other factors that bear on a navy's capabilities and how those capabilities compare to its assigned missions. One-dimensional comparisons of the total numbers of ships in China's navy and the U.S. Navy are highly problematic as a means of assessing relative U.S. and Chinese naval capabilities and how those capabilities compare to the missions assigned to those navies, for the following reasons:

- **A fleet's total number of ships (or its aggregate tonnage) is only a partial metric of its capability.** Many factors other than ship numbers (or aggregate tonnage) contribute to naval capability, including types of ships, types and numbers of aircraft, the sophistication of sensors, weapons, C4ISR systems, and networking capabilities, supporting maintenance and logistics capabilities, doctrine and tactics, the quality, education, and training of personnel, and the realism and complexity of exercises. In light of this, navies with similar numbers of ships or similar aggregate tonnages can have significantly different capabilities, and navy-to-navy comparisons of numbers of ships or aggregate tonnages can provide a highly inaccurate sense of their relative capabilities. The warfighting capabilities of navies have derived increasingly from the sophistication of their internal electronics and software. This factor can vary greatly from one navy to the next, and often cannot be easily assessed by outside observation. As the importance of internal electronics and software has grown, the idea of comparing the warfighting capabilities of navies principally on the basis of easily observed factors such as ship numbers and tonnages has become increasingly less reliable, and today is highly problematic.
- **Total numbers of ships of a given type (such as submarines or surface combatants) can obscure potentially significant differences in the capabilities of those ships, both between navies and within one country's navy.** Differences in capabilities of ships of a given type can arise from a number of other factors, including sensors, weapons, C4ISR systems, networking capabilities, stealth features, damage-control features, cruising range, maximum speed, and reliability and maintainability (which can affect the amount of time the ship is available for operation).
- **A focus on total ship numbers reinforces the notion that changes in total numbers necessarily translate into corresponding or proportional changes in aggregate capability.** For a Navy like China's, which is modernizing by replacing older, obsolescent ships with more modern and more capable ships, this is not necessarily the case. For example, while China's attack submarine force has only a modestly larger number of boats now than it had in 2000 or 2005 (see **Table 1** and **Table 2**), it has considerably more aggregate capability than it did in 2000 or 2005, because the force today includes a much larger percentage of relatively modern designs.

- **Comparisons of total numbers of ships (or aggregate tonnages) do not take into account the differing global responsibilities and homeporting locations of each fleet.** The U.S. Navy has substantial worldwide responsibilities, and a substantial fraction of the U.S. fleet is homeported in the Atlantic. As a consequence, only a certain portion of the U.S. Navy might be available for a crisis or conflict scenario in China's near-seas region, or could reach that area within a certain amount of time. In contrast, China's navy has more-limited responsibilities outside China's near-seas region, and its ships are all homeported along China's coast at locations that face directly onto China's near-seas region. In a U.S.-China conflict inside the first island chain, U.S. naval and other forces would be operating at the end of generally long supply lines, while Chinese naval and other forces would be operating at the end of generally short supply lines.
- **Comparisons of numbers of ships (or aggregate tonnages) do not take into account maritime-relevant military capabilities that countries might have outside their navies,** such as land-based anti-ship ballistic missiles (ASBMs), land-based anti-ship cruise missiles (ASCMs), and land-based Air Force aircraft armed with ASCMs or other weapons. Given the significant maritime-relevant non-navy forces present in both the U.S. and Chinese militaries, this is a particularly important consideration in comparing U.S. and Chinese military capabilities for influencing events in the Western Pacific. Although a U.S.-China incident at sea might involve only navy units on both sides, a broader U.S.-China military conflict would more likely be a force-on-force engagement involving multiple branches of each country's military.
- **The missions to be performed by one country's navy can differ greatly from the missions to be performed by another country's navy.** Consequently, navies are better measured against their respective missions than against one another. Although Navy A might have less capability than Navy B, Navy A might nevertheless be better able to perform Navy A's intended missions than Navy B is to perform Navy B's intended missions. This is another significant consideration in assessing U.S. and Chinese naval capabilities, because the missions of the two navies are quite different.

As mentioned earlier, while comparisons of the total numbers of ships in China's Navy and the U.S. Navy are highly problematic as a means of assessing relative U.S. and Chinese naval capabilities and how those capabilities compare to the missions assigned to those navies, an examination of *the trends over time in the relative numbers of ships* can shed some light on how the relative balance of U.S. and Chinese naval capabilities might be changing over time.

Appendix B. U.S. Navy's Ability to Counter Chinese ASBMs and Hypersonic Weapons

This appendix provides additional discussion of the issue of the U.S. Navy's ability to counter China's ASBMs and hypersonic weapons.

Ability to Counter ASBMs

Although China's projected ASBM, as a new type of weapon, might be considered a "game changer," that does not mean it cannot be countered. There are several potential approaches for countering an ASBM that can be imagined, and these approaches could be used in combination. The ASBM is not the first "game changer" that the Navy has confronted; the Navy in the past has developed counters for other new types of weapons, such as ASCMs, and is likely exploring various approaches for countering ASBMs.

Countering China's projected ASBMs could involve employing a combination of active (i.e., "hard-kill") measures, such as shooting down ASBMs with interceptor missiles, and passive (i.e., "soft-kill") measures, such as those for masking the exact location of Navy ships or confusing ASBM reentry vehicles. Employing a combination of active and passive measures would attack various points in the ASBM "kill chain"—the sequence of events that needs to be completed to carry out a successful ASBM attack. This sequence includes detection, identification, and localization of the target ship, transmission of that data to the ASBM launcher, firing the ASBM, and having the ASBM reentry vehicle find the target ship.

Attacking various points in an opponent's kill chain is an established method for countering an opponent's military capability. A September 30, 2011, press report, for example, quotes Lieutenant General Herbert Carlisle, the Air Force's deputy chief of staff for operations, plans, and requirements, as stating in regard to Air Force planning that "We've taken [China's] kill chains apart to the 'nth' degree."[139]

To attack the ASBM kill chain, Navy surface ships, for example, could operate in ways (such as controlling electromagnetic emissions or using deception emitters) that make it more difficult for China to detect, identify, and track those ships.[140] The Navy could acquire weapons and systems for disabling or jamming China's long-range maritime surveillance and targeting systems, for attacking ASBM launchers, for destroying ASBMs in various stages of flight, and for decoying

[139] David A. Fulghum, "USAF: Slash And Burn Defense Cuts Will Cost Missions, Capabilities," *Aerospace Daily & Defense Report*, September 30, 2011: 6.

[140] For a journal article discussing actions by the Navy during the period 1956-1972 to conceal the exact locations of Navy ships, see Robert G. Angevine, "Hiding in Plain Sight, The U.S. Navy and Dispersed Operations Under EMCON, 1956-1972," *Naval War College Review*, Spring 2011: 79-95. See also Jonathan F. Sullivan, Defending the Fleet From China's Anti-Ship Ballistic Missile: Naval Deception's Roles in Sea-Based Missile Defense, A Thesis submitted to the Faculty of the Graduate School of Arts and Sciences of Georgetown University in partial fulfillment of the requirements for the degree of Master of Arts in Security Studies, April 15, 2011, accessed August 10, 2011, at http://gradworks.umi.com/1491548.pdf; Jon Solomon, "Deception and the Backfire Bomber: Reexamining the Late Cold War Struggle Between Soviet Maritime Reconnaissance and U.S. Navy Countertargeting," *Information Dissemination* (*www.informationdissemination.net*), October 27, 2014; John Solomon, "Deception and the Backfire Bomber, Part II," *Information Dissemination* (*www.informationdissemination.net*), October 28, 2014; John Solomon, "Deception and the Backfire Bomber, Part III," *Information Dissemination* (*www.informationdissemination.net*), October 29, 2014; John Solomon, "Deception and the Backfire Bomber, Part IV," *Information Dissemination* (*www.informationdissemination.net*), October 30, 2014.

and confusing ASBMs as they approach their intended targets. Options for destroying ASBMs in flight include the SM-3 midcourse BMD interceptor missile (including the new Block IIA version), the SM-6 terminal-defense BMD interceptor missile,[141] and accelerating development and deployment of the hypervelocity projectile (HVP), electromagnetic rail gun (EMRG), and solid state lasers (SSLs).[142] Options for decoying and confusing ASBMs as they approach their intended targets include equipping ships with systems, such as electronic warfare systems or systems for generating radar-opaque smoke clouds or radar-opaque carbon-fiber clouds, that could confuse an ASBM's terminal-guidance radar.[143]

An October 4, 2016, press report states the following:

> Several times in the past, [Chief of Naval Operations John] Richardson has stressed that long range weapons developments from adversarial nations like Russia and China aren't the end-all, be-all of naval conflicts.
>
> Just because China's "carrier-killer" missile has a greater range than the planes aboard a US aircraft carrier doesn't mean the US would shy away from deploying a carrier within that range, Richardson has stated on different occasions.
>
> Again, Richardson challenged the notion that a so-called A2/AD zone was "an impenetrable keep out zone that forces can only enter at extreme peril to their existence, let alone their mission."
>
> Richardson took particular issue with the "denial" aspect of A2/AD, repeating his assertion that this denial is an "aspiration" not a "fait accompli." The maps so common in representing these threats often mark off the limits of different system's ranges with "red arcs that extend off coastlines," with the implication that military forces crossing these lines face "certain destruction."
>
> But this is all speculation according to Richardson: "The reality is far more complex, it's actually really hard to achieve a hit. It requires the completion of a really complex chain of events.... these arcs represent danger for sure... but the threats they are based on are not insurmountable, and can be managed, will be managed."
>
> "We can fight from within these defended areas, and we will... this is nothing new and has been done before," said Richardson.
>
> So while Russia and China can develop missiles and radars and declare their ranges on paper, things get a lot trickier in the real world, where the US has the most and best experience in operating.
>
> "Potential adversaries actually have different geographic features like choke points, islands, ocean currents, mountains," said Richardson, who urged against oversimplifying complicated, and always unique circumstances in so-called A2/AD zones.

[141] For more on the SM-3, including the Block IIA version, and the SM-6, see CRS Report RL33745, *Navy Aegis Ballistic Missile Defense (BMD) Program: Background and Issues for Congress*, by Ronald O'Rourke.

[142] For more on HVP, EMRG, and SSLs, see CRS Report R44175, *Navy Lasers, Railgun, and Gun-Launched Guided Projectile: Background and Issues for Congress*, by Ronald O'Rourke.

[143] Regarding electronic warfare, see, for example, Brett Tingley, "The Navy's Secretive And Revolutionary Program To Project False Fleets From Drone Swarms," *The Drive*, November 7, 2019. Regarding the option of systems for generating radar-opaque smoke clouds, Thomas J. Culora, "The Strategic Implications of Obscurants," *Naval War College Review*, Summer 2010: 73-84; Scott Tait, "Make Smoke!" U.S. Naval Institute Proceedings, June 2011: 58-63. Regarding radar-opaque carbon-fiber clouds, see "7th Fleet Tests Innovative Missile Defense System," Navy News Services, June 26, 2014; Kevin McCaney, "Navy's Carbon-Fiber Clouds Could Make Incoming Missiles Miss Their Targets," *Defense Systems* (http://defensesystems.com), June 27, 2014. See also Sydney J. Freedberg Jr., "Cyber, EW Are Secret Missile Defense Weapons Too Secret To Use," *Breaking Defense*, December 4, 2015.

> "Have no doubt, the US navy is prepared to go wherever it needs to go, at any time, and stay there for as long as necessary in response to our leadership's call to project our strategic influence," Richardson concluded.

Similarly, an August 29, 2016, press report states the following:

> The United States Navy is absolutely confident in the ability of its aircraft carriers and carrier air wings to fly and fight within zones defended by so-called anti-access/area denial (A2/AD) weapons....
>
> In the view of the U.S. Navy leadership, A2/AD—as it is now called—has existed since the dawn of warfare when primitive man was fighting with rocks and spears. Overtime, A2/AD techniques have evolved as technology has improved with ever-greater range and lethality. Rocks and spears eventually gave way to bows and arrows, muskets and cannons. Thus, the advent of long-range anti-ship cruise and ballistic missiles is simply another technological evolution of A2/AD.
>
> "This is the next play in that," Adm. John Richardson, chief of naval operations, told The National Interest on Aug. 25 during an interview in his office in the Pentagon. "This A2/AD, well, it's certainly a goal for some of our competitors, but achieving that goal is much different and much more complicated."
>
> Indeed, as many U.S. Navy commanders including Richardson and Rear Adm. (Upper Half) DeWolfe Miller, the service's director of air warfare, have pointed out, anti-access bubbles defended by Chinese DF-21D or DF-26 anti-ship ballistic missile systems or Russian Bastion-P supersonic anti-ship missile systems are not impenetrable 'Iron Domes.' Nor do formidable Russian and Chinese air defense systems such as the S-400 or HQ-9 necessarily render the airspace they protect into no-go zones for the carrier air wing.
>
> Asked directly if he was confident in the ability of the aircraft carrier and its air wing to fight inside an A2/AD zone protected by anti-ship cruise and ballistic missiles as well as advanced air defenses, Richardson was unequivocal in his answer. "Yes," Richardson said—but he would not say how exactly how due to the need for operational security. "It's really a suite of capabilities, but I actually think we're talking too much in the open about some of the things we're doing, so I want to be thoughtful about how we talk about things so we don't give any of our competitors an advantage."...
>
> Miller said that there have been threats to the carrier since the dawn of naval aviation. In many ways, the threat to the carrier was arguably much greater during the Cold War when the Soviet Union massed entire regiments of Tupolev Tu-22M3 Backfires and deployed massive cruise missile-armed Oscar-class SSGN submarines to hunt down and destroy the Navy's flattops. The service developed ways to defeat the Soviet threat—and the carrier will adapt to fight in the current environment.
>
> "We could have had this interview twenty-years-ago and there would have been a threat," Miller said. "The nature of war and A2/AD is not new—that's my point. I don't want to downplay it, but our improvements in information warfare, electronic warfare, payloads, the weapons systems that we've previously talked about—plus our ability to train to those capabilities that we have—we will create sanctuaries, we'll fight in those sanctuaries and we're a maneuver force."[144]

An October 18, 2017, blog post states the following:

[144] Dave Majumdar, "Chief of Naval Operations Richardson: US Aircraft Carriers Can Fight Inside A2/AD Zones," *National Interest*, August 29, 2016. See also Ryan Pickrell, "Navy Admirals Brush Aside Biggest Worry Of Modern Naval Combat," *Daily Caller*, August 31, 2016; Dave Majumdar, "Here Is Why the US Military Is Not In Panic Mode Over China's Carrier-Killer Missiles," *National Interest*, June 20, 2016.

> Assuming the DF-21D is ready for battle, can America defend against China's mighty missile?
>
> While opinions are clearly mixed—in speaking to many sources over the last several years on this topic—it seems clear there is great nervousness in U.S. defense circles. However, as time has passed, initial fears have turned towards a more optimistic assessment....
>
> In the end, the weapon might not be the great "game-changer" that many point it out to be, but a great complicator.[145]

A January 28, 2021, press report states

> The U.S. Navy's top intelligence officer has said the service is watching closely as China expands its anti-ship missile capabilities, particularly in and around the disputed South China Sea, to include the ongoing development of long-range anti-ship ballistic missiles. At the same time, he said he "hopes" that China's People's Liberation Army will continue to invest significant resources into these efforts, hinting that the U.S. Navy already has extensive measures to counter these threats already in use now or in development.
>
> Navy Vice Admiral Jeffrey Trussler, the Deputy Chief of Naval Operations for Information Warfare, made his remarks about China's anti-ship missile arsenal during an online event put on by the non-profit Intelligence and National Security Alliance on Jan. 27, 2021….
>
> … not only did Vice Admiral Trussler seem less concerned about PLA anti-ship missile capabilities than one would expect, he made clear he was happy with them continuing to pour time and resources into those efforts.
>
> "I hope they just keep pouring money into that type of thing," he said. "That may not be how we win the next war."
>
> The clear indication here is that Trussler is aware of countermeasures, whether they be certain systems or tactics, techniques, and procedures, that are either available now or in development. The Vice Admiral did not offer any specific details about what the Navy is doing to go along with these remarks….
>
> We also know that, by 2019, warships assigned to the Navy's 7th Fleet, which is based in Japan, were fitted with the AN/SLQ-59 Transportable Electronic Warfare Modules (TEWM). TEWM is described as a "counter-terminal threat defensive system," indicating that it is designed to help defeat incoming anti-ship missiles, or other threats, such as swarms of small drones, in the final phase of their attack on a ship. Based on the information available, The War Zone previously assessed that the AN/SLQ-59 was most likely acquired in response to growing cruise missile threats, and Chinese developments, in particular, given its fielding first on ships forward-deployed in Japan.
>
> The Navy has also been hard at work developing an entire networked electronic warfare "ecosystem," as part of its shadowy Netted Emulation of Multi-Element Signature against Integrated Sensors program, or NEMESIS. The goal here has been to craft a 'system of systems' comprising of various manned and unmanned ships, as well as submarines and aircraft, equipped with electronic warfare systems that can work together cooperatively. One of the key uses of these capabilities would be to generate signals that mimic real fleets of ships and aircraft to distract and confuse opponents, making it difficult for them to effectively spot and target real Navy assets. These networked electronic warfare platforms could also employ other kinds of electronic warfare tactics across a broad area to protect

[145] Harry J. Kazianis, "Could China's Aircraft Carrier Killer Missiles 'Sink' the U.S. Navy?" *National Interest*, October 18, 2017. See also Dick Mosier, "Breaking the Anti-Ship Missile Kill Chain," Center for International Maritime Security, February 26, 2018; Richard A. Bitzinger, "The Myth of the 'Game-Changer' Weapon," Asia Times, April 26, 2018.

> against various kinds of threats. You can read more about NEMSIS in detail in this past War Zone feature.[146]
>
> A highly adaptive and deeply networked electronic warfare ecosystem could be particularly useful against long-range anti-ship missile strikes, especially using ballistic missiles, which would require targeting information from offboard platforms and the ability to send updated information to the weapon during the mid-course stage of flight….
>
> The Navy does have Arleigh Burke class destroyers outfitted specifically for ballistic missile defense, including the ability to launch the SM-3 Block IIA interceptor, which is designed to knock down ballistic missiles during the mid-course portion of their flight. Those ships are also slated to get interceptors designed to bring down hypersonic weapons in the future as part of the Regional Glide Phase Weapon System (RGPWS) program….
>
> The Navy, which has been looking to stop deploying Arleigh Burkes on dedicated missile defense missions, could seek to make more widespread use of the SM-3 Block IIA in the future. Those destroyers and other ships could gain additional missile defense capabilities as the improved Block IB variant of the SM-6 missile begins to enter service. Existing Block I and IA versions of the SM-6 already have the ability to intercept ballistic missiles during the terminal phase of their flight, as well as engage various other aerial and surface threats. The SM-6, in particular, potentially provides a potent defense against anti-ship ballistic missiles, especially those that break through mid-course traditional ballistic missile defenses, if mid-course ballistic missile defense assets are available at all.
>
> There's the possibility that Vice Admiral Trussler is aware of other developments in the classified realm that could further mitigate some or all of these threats, as well. Beyond that, there's no discounting that his public comments, which are certain to be scrutinized by the PLA itself, are a form of misinformation designed to prompt concerns within the Chinese military that its priorities may be, in some way, seriously off base.
>
> Whatever the case, the threat posed by China's anti-ship missile arsenal, which continues to grow in capability, including with the development of new anti-ship ballistic missiles, is real. At the same time, while the Navy obviously knows this, the service seems to be strongly hinting that it feels it making very good progress on getting around these challenges, or at least wants to make the Chinese think so.[147]

Regarding the above-reported remarks by Vice Admiral Trussler, a January 29, 2021, press report stated

> That confident [U.S. Navy] posture caught the attention of the Chinese military establishment. "What Trussler is saying is that the U.S. has sufficient power to handle the anti-ship missile threat from China," former People's Liberation Army instructor Song Zhongping told the South China Morning Post on Friday [January 29]. "The U.S. is emphasizing that threat and it will further boost its defenses against Chinese missiles."[148]

[146] The article linked at this point is Brett Tingley, "The Navy's Secretive And Revolutionary Program To Project False Fleets From Drone Swarms," *The Drive*, November 7, 2019.

[147] Joseph Trevithick, "Top Navy Intel Officer Hopes China Will Keep Dumping Money Into Anti-Ship Ballistic Missiles, The Navy Is Strongly Hinting that It Feels It Is Well on Its Way to Mitigating the Very Real Threats Posed by Anti-Ship Ballistic and Cruise Missiles," *The Drive*, January 28, 2021. See also Mallory Shelbourne, "U.S. Admiral: China Can 'Keep Pouring Money' Into Anti-Ship Ballistic Missiles," *USNI News*, January 27, 2021.

[148] Joel Gehrke, "China's 'Carrier Killer' and Military Won't 'Win the Next War,' US Admiral Says," *Washington Examiner*, January 29, 2021. The *South China Morning Post* article being cited is Teddy Ng and Minnie Chan, "US Admiral Calls China's Anti-Ship Ballistic Missiles a 'Destabilising Effort' that May Not Win a War," *South China Morning Post*, January 29, 2021. See also Kris Osborn, "Could the US Navy Destroy Attacking Chinese 'Carrier-Killer' DF-26 Anti-Ship Missiles?" *Warrior Maven*, October 11, 2022.

Ability to Counter Hypersonic Weapons

Regarding the Navy's ability to counter hypersonic weapons, a June 24, 2022, press report states

> Raytheon Technologies and Northrop Grumman have each won contracts to continue developing hypersonic weapons interceptors in a Missile Defense Agency-led competition, according to a June 24 Pentagon contract announcement.
>
> Each company was awarded a firm-fixed price modification to a previously awarded contract for rapid prototyping. Each modification is worth roughly $41.5 million, bringing the total contract value thus far to around $61 million each, according to the contract announcement.
>
> In November 2021, the MDA chose the two companies along with Lockheed Martin to design the Glide Phase Interceptor (GPI) for regional hypersonic missile defense. Through other transactional agreements, the companies entered an "accelerated concept design" phase.
>
> The interceptors are intended to counter a hypersonic weapon during its glide phase of flight, a challenge as the missiles can travel more than five times the speed of sound and can maneuver, making it hard to predict a missile's trajectory.
>
> The interceptors will be designed to fit into the U.S. Navy's current Aegis Ballistic Missile Defense destroyers. It will be fired from its standard Vertical Launch System and integrated with the modified Baseline 9 Aegis Weapon System that detects, tracks, controls and engages hypersonic threats.[149]

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[149] Jen Judson, "Raytheon, Northrop Advance in Competition to Develop Hypersonic Weapons Interceptor," *Defense News*, June 24, 2022. See also Jason Sherman, "MDA Selects Raytheon, Northrop to Advance in GPI Design Contest; Lockheed Sidelined," *Inside Defense*, June 24, 2022; Andrew Eversden, "Northrop, Raytheon Selected to Continue Work on Hypersonic Missile Interceptor," *Breaking Defense*, June 27, 2022; Rich Abott, "Raytheon And Northrop Grumman Win Mods To Continue Refining Hypersonic Defense Concepts," *Defense Daily*, November 16, 2022.

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CHINA'S USE OF COERCIVE ECONOMIC MEASURES

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The Energy, Economics, and Security Program analyzes the changing global energy and economic landscape and its national security implications. From the shifting geopolitics of energy to tools of economic statecraft, such as trade policy and sanctions, to security concerns tied to a changing natural environment, the program develops strategies to help policymakers understand, anticipate, and respond. The program draws from the diverse expertise and backgrounds of its team and leverages other CNAS experts' strengths in regional knowledge, defense, and foreign policy to inform conversations in the nexus of energy markets, industry, economic policy, and U.S. national security.

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Cover Photo: Justin Sullivan/Getty Images

CHINA'S USE OF COERCIVE ECONOMIC MEASURES

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Executive Summary

China has been a practitioner of economic statecraft throughout its history, and in recent decades since Deng Xiaoping opened the country in the 1970s. Today, one of President Xi Jinping's central foreign policy initiatives, the Belt and Road Initiative (BRI), is a potentially trillion-dollar testament to Beijing's commitment to using loans, infrastructure projects, and other economic measures as foreign policy tools.

In the past decade, China has expanded its set of such economic instruments to include sticks, not just carrots. China has punished countries that undermine its territorial claims and foreign policy goals with measures such as restricting trade, encouraging popular boycotts, and cutting off tourism. These actions have caused significant economic damage to U.S. partners such as Japan and South Korea. The measures may also have long-term effects in deterring and shaping countries' foreign policy interests that go well beyond the short-term economic costs.

Chinese use of economic coercion is likely to shape U.S. policy options in Asia and constrain both U.S. policymakers' and companies' maneuverability globally. Yet, the fact that China often relies on informal or extralegal measures to implement its economic coercion, the lack of a coordinated U.S. government response, and major methodological differences between Chinese and U.S. approaches to economic coercion have resulted in relatively limited study of this tool. This report sheds light on the nature and breadth of China's coercive economic policies. It analyzes and classifies the major features of China's economic coercion and its implications for the United States. It also offers preliminary recommendations for U.S. policymakers and stakeholders to begin addressing the challenge.

This paper draws its conclusions primarily from nine cases of Chinese economic coercion since 2010: seven cases where China acted alone and two where it joined a broader multilateral campaign of economic pressure. The cases point to Beijing's sophistication in its use of coercion. China learns from previous experiences, adopting tactics that work and abandoning those that do not. Additionally, Beijing tailors each coercion campaign, finding pressure points in target countries and minimizing collateral damage on its own economy and population. China also deftly combines its economic coercion with economic inducements and other tools of statecraft, pairing its sticks with carrots and diplomatic negotiations.

As China's economy and its economic statecraft become more sophisticated, Beijing is sharpening and expanding its coercive economic toolkit. Its growing set of tools looks quite different from the wide array of U.S. tools. Washington relies on formal, published sanctions, trade controls, or investment restrictions. Instead, Beijing prefers approaches that do not legally link a foreign policy dispute to the coercive measures, creating public deniability and greater optionality for escalation and de-escalation. China typically imposes economic costs through informal measures such as selective implementation of domestic regulations, including stepped-up customs inspections or sanitary checks, and uses extralegal measures such as employing state media to encourage popular boycotts and having government officials directly put informal pressure on specific companies.

The cases also illustrate key aspects of Chinese targeting. All of the cases studied where China acted alone involve China using economic coercion against democratic countries, and Beijing generally targets politically influential constituencies capable of pushing for policy change, regardless of whether or not the targeted constituency has any involvement in the policy to which China objects.

Finally, the report sheds light on the Chinese policy interests that trigger Beijing's use of economic coercion. When China undertakes multilateral coercive economic measures, such as sanctions, Beijing has helped to reinforce global norms—for example, nonproliferation. Yet, far more commonly, when Beijing unilaterally uses its own coercive economic measures it does so to bolster its territorial claims and national sovereignty or to advance other core interests. China has targeted countries such as the Philippines for their challenges to China's maritime claims and Norway for its alleged intrusion in Chinese domestic politics for the awarding of a Nobel Peace Prize to dissident Liu Xiaobo. Recently, as China's market has grown ever more important to global companies, China has also begun targeting individual corporations with coercive measures if they fail to adopt Beijing's preferred policy positions. For example, in early 2018 U.S. airlines began to experience retaliation for listing Taiwan as a separate country.

Though economic coercion is one of many facets of Chinese economic statecraft, U.S. policymakers must better understand it. Beijing's use of coercive measures is growing in frequency and evolving in scope. Both China's tools and the situations in which China is willing to use them are broadening as the country's confidence increases. In the next decade, China's relative economic

power will expand, giving Beijing additional leverage over a more diverse set of countries and companies.

Xi has made clear that under his continued leadership, China will take a more assertive posture abroad. Economic coercion will be part of this. Coercion also serves domestic political purposes for Beijing, which has cultivated rising nationalism domestically and which can use coercive economic measures to show domestic political audiences that China is acting to punish countries and companies that fail to conform to Beijing's wishes.

It is possible that in the midterm Beijing will formalize some of its coercive economic measures, particularly if Beijing adopts a planned Export Control Law, though China is likely to continue relying on informal and extralegal measures for the majority of its economic coercion. Whether or not the measures are formal, however, the United States and other nations will need a formal response and must begin to formulate it immediately. Threatened countries will likely experience a growing sense of urgency to respond to Chinese economic coercion.

U.S. policymakers need to initiate a response. The Trump administration should study the phenomenon to identify specific vulnerabilities in the United States and in partner nations. Building on these efforts, the administration should increase outreach to allies. Economic coercion is a global issue that cannot be addressed without adequate international information sharing and coordination. U.S. officials abroad can play an essential role by gathering currently unavailable data and encouraging foreign partners to take preemptive measures. The Trump administration should also begin to identify trade policy tools and other tools that can be used to build the resilience of partners to resist Chinese economic coercion.

The U.S. Congress should specifically highlight Chinese economic coercion through hearings and investigations. It should consider strengthening anti-boycott statutes and authorizing funding to compensate targets of Chinese coercive measures, at home and abroad. This approach could act as a deterrent by raising costs for China's conduct. Capitol Hill should also work to fund innovation in key economic sectors. The more the United States becomes irreplaceable in the supply chains of the future, the harder it will be for China to use coercive measures against Washington. Private-sector actors should understand their exposure to Chinese economic coercion and limit their vulnerabilities through supply chain redundancy and market diversification. Finally, nongovernmental organizations should advance government efforts by supporting research on this topic. For too long Chinese economic coercion has escaped sustained scrutiny. The goal of this report is to begin spurring a global, coordinated response.

CHAPTER 1

Introduction and Background

KEY TAKEAWAYS

- China is a longtime practitioner of economic statecraft and over the past decade has increasingly used coercive economic measures as a tool of foreign policy.
- China has been able to achieve several successes from its use of economic coercion and appears likely to increase its use of such measures in the future. This will have important implications for U.S. action.

China has long used economic statecraft as a pillar of its foreign policy. Historically, Chinese leaders used economic inducements ranging from gifts to the promise of loans and investments to solidify relationships with foreign governments and advance Chinese influence. Some 2,000 years ago, for example, a minister in the Han Dynasty recommended offering tribes on China's frontier "five baits" to bring them into China's orbit. These included "elaborate clothes and carriages," "fine food," "lofty buildings," and other enticements to submit to the Chinese emperor.[1]

Much more recently, as China emerged as one of the world's largest economies by the 1990s, Beijing embarked on an ambitious agenda of using Chinese-financed development projects, Chinese investments, and favorable trading terms as tools to expand its global footprint. In 2013, China launched the Belt and Road Initiative (BRI), a potentially $1 trillion, almost 70-country[2] global infrastructure development initiative that is likely to significantly expand Chinese influence from Asia to Europe.[3] But even before the BRI, since the 1990s China had greatly expanded its foreign assistance and development projects globally, typically with an eye toward winning both economic and strategic benefits.[4]

Over the past decade, however, China has also used the "sharp end" of its economic statecraft, turning to coercive economic measures as a tool. The authors define coercive economic measures as China's restrictions on trade or investment intended to impose financial or economic costs on a target in pursuit of a foreign policy objective or to influence a foreign government to offer policy concessions to China. As used here, coercion indicates the use, or threatened use, of economic "sticks," but not the use of positive inducements or other tools, as commonly included in academic definitions.[5] Countries that take foreign policy actions contrary to Chinese interests have found themselves victims of measures ranging from restrictions on exports to China to sudden declines in the flow of Chinese tourists to a target country. Individual companies have also come under pressure and faced restrictions on business in China and threats of being fully cut out of the Chinese market.

The first contemporary case of Chinese economic coercion to attract widespread international attention was China's decision in 2010 to restrict rare earths exports to Japan during a maritime standoff near the disputed Senkaku/Diaoyu islands.[6] Other recent cases that have drawn public attention include coercive economic measures against Norway in 2011, against the Philippines in 2012, against Taiwan in 2016, and South Korea in 2017. The Case Study Summary on pages 9-10 provides a brief summary of all of the cases studied as a part of this project, and the annex provides additional background on the cases.

Chinese economic coercion can have significant economic impacts. After South Korea deployed a Terminal High-Altitude Area Defense (THAAD) missile defense system in 2017, China retaliated by curtailing group tours to South Korea, temporarily limiting imports of certain Korean products into China, and quietly threatening South Korean companies with additional restrictions. The Bank of Korea estimated the actions shaved almost half a percentage point off of South

Chinese economic coercion can impose significant costs on targeted countries. The tourism restrictions imposed on South Korea after the deployment of the Terminal High-Altitude Area Defense (THAAD) missile system, pictured here, could cost Seoul over $15 billion if fully enforced. (Handout/Getty Images)

After the 2016 election of Tsai Ing-wen as president of Taiwan, pictured here at her inauguration, China retaliated by cutting tourism to the island and pressuring universities. (Ashley Pon/ Stringer)

Korean 2017 growth.[7] A South Korean research institute estimated in September 2017 that the cost to South Korea of the tourism restrictions alone could be over $15 billion.[8] The Japanese government has informally estimated that Japan was forced to spend at least $1 billion on mitigation and diversification initiatives to compensate for China's restrictions on rare earths exports after the 2010 dispute.[9]

Even in cases where Chinese coercive economic measures have had negligible or difficult-to-quantify macroeconomic impacts, China shaped the political views of specific constituencies in target countries. For example, after Tsai Ing-wen was elected president of Taiwan in 2016, China curtailed the flow of tourists to the island, with an estimated 22 percent fewer Chinese tourists traveling to Taiwan in 2017 than did so the year before.[10] By engaging in an aggressive tourism marketing initiative, Taiwan was able to partially offset the loss of tourism revenue by attracting visitors from other countries.[11] But the sharp decline in Chinese tourism contributed to protests by tourism-sector workers in late 2016.[12] Similarly, in 2012 China was widely seen as restricting imports of Filipino bananas as punishment for a territorial dispute in the South China Sea. There is debate in the literature about whether some of the Chinese import restrictions actually predated the territorial dispute[13] and about the economic damage these cuts caused.[14] Nonetheless, China succeeded in pushing Filipino banana producers to pressure the government to resolve the South China Sea dispute.[15]

Finally, China has achieved symbolic victories even when the practical impacts of coercive economic measures appear to be limited. For example, after the Norwegian Nobel Committee awarded Chinese dissident Liu Xiaobo the Nobel Peace Prize in 2010, China retaliated by banning imports of Norwegian salmon. The import ban appears to have had little real-world impact, as Norway found alternative markets and appears to have routed fish to China via third countries.[16] Yet, as part of restoring normal relations with Beijing in 2016, Norway nonetheless issued a public statement acknowledging China's "sovereignty" and "core interests" while Beijing hoped that Oslo had "deeply reflected" on how it had harmed mutual trust.[17]

China will likely rely primarily on economic inducements such as trade agreements and concessional lending as the central tools of Chinese economic statecraft. However, economic coercion is today a poorly understood part of China's broader economic statecraft.

Economic coercion is today a poorly understood part of China's broader economic statecraft.

Additionally, many suspect that Beijing will expand its use of this tool.

To help policymakers understand and address Chinese economic coercion, this study examines nine cases of China's use of coercive economic measures since 2010. Based on these cases, this report analyzes the following issues: (1) the circumstances in which China uses coercive economic measures; (2) the nature of the tools that China deploys in its coercive economic toolkit and China's potential coercive leverage; (3) how China engages in targeting; (4) how China's use of coercive economic measures is likely to evolve in the near term and midterm; and (5) potential implications for the United States. This report also offers preliminary recommendations to U.S. and allied policymakers to shape an initial response.

Scope of this Study

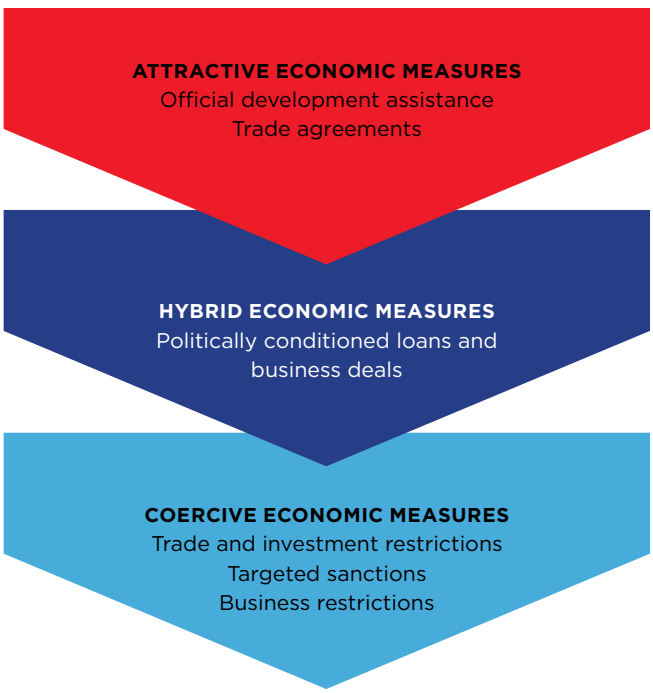
This project focuses on coercive economic measures, defined above, that China uses to pursue foreign diplomatic, political, and security objectives. This project does not cover the coercive economic measures that China uses to pursue trade policy and other economic policy objectives. Therefore, this study does not focus on China's recent threats to impose tariffs on imports

from the United States in retaliation for President Donald Trump's planned tariffs on $50 billion of Chinese exports, nor does it discuss Chinese efforts to coerce U.S. and Western firms into transferring intellectual property and technology to China, common elements of Chinese economic policy.

Coercive economic measures sit on a continuum of Chinese economic tools used to advance Chinese foreign policy objectives. Other tools include official development assistance, concessional lending and favorable business terms, and trade agreements. Figure 1 illustrates where coercive economic measures fit in the range of Chinese tools of economic statecraft.

For the purposes of this study, the authors have not included as coercive economic measures China's practice of attaching political conditions to certain overseas lending and development projects, such as China's well-known practice of requiring that governmental recipients of Chinese development loans support the "One China" policy and refrain from offering diplomatic relations to Taiwan. While there is clear overlap between politically conditioned lending and the coercive economic measures studied in this report, in the authors' view, politically conditioned lending ultimately represents an economic inducement—China granting a new loan in exchange for the recipient agreeing to certain political conditions—rather than a coercive economic measure in which China is depriving a target of an economic resource that the target had access to prior to the Chinese action.

Figure 1: Tools of Chinese Economic Statecraft



China regularly uses coercive economic measures in the context of trade disputes. Recently, China began retaliating against proposed U.S. Section 301 measures. In March 2018, President Donald Trump signed the Section 301 memorandum that called out China's unfair business practices and threatened to impose tariffs on Chinese products. (Mark Wilson/Getty Images)

This study examines six recent cases where China used unilateral coercive economic measures in pursuit of Chinese national interests and which were not part of a larger multilateral pressure campaign. The specific cases studied were selected because they represent the most publicized, documented, and clear-cut examples of Chinese economic coercion over the last decade, and sufficient information was available on each to allow a full study. The authors assess that these cases represent the majority of cases of Chinese coercive economic measures during the last decade, while acknowledging that there is some debate among experts about whether there have been other cases as well.

The cases studied are (1) Chinese restrictions on rare earths exports and other measures directed at Japan after a collision between a Chinese fishing boat and a Japanese coast guard ship near the disputed Senkaku/Diaoyu islands in 2010 as well as subsequent tensions between China and Japan in 2012;[18] (2) Chinese restrictions on imports of Norwegian salmon after Liu won the Nobel Peace Prize in 2010; (3) Chinese reductions of imports of bananas and other agricultural goods from the Philippines as well as cuts in tourism from China after a dispute over the South China Sea from 2012 to 2016; (4) Chinese reductions in tourism and other measures against Taiwan in response to the election of Tsai in 2016; (5) Chinese tourism reductions and restrictions on certain trade with South Korea after Seoul agreed to

China has made exceptions to its noninterference policy to support certain U.N. Security Council sanctions. Here, Chinese Deputy U.N. Permanent Representative Ambassador Wu Haitao discusses new sanctions on North Korea. (Spencer Platt/Getty Images)

deploy a U.S. THAAD missile defense system in 2016; and (6) temporary Chinese restrictions on cross-border trade with Mongolia after it allowed the Dalai Lama's visit in 2016. (China has a decadeslong history of retaliating against countries that host the Dalai Lama; this study uses Mongolia as a recent example that included significant coercive economic measures).

Coercive economic measures sit on a continuum of Chinese economic tools used to advance Chinese foreign policy objectives.

The report also examines an ongoing case of Chinese economic coercion that has emerged during the research for this report: potential threats that China may reduce the number of students studying in Australia due to recent heightened political tensions between the two countries. In addition, the researchers have examined recent Chinese efforts to encourage individual U.S. and European companies to modify websites and social media accounts to reflect Chinese policy views.

The study examines two recent cases where China used coercive economic measures in support of broader international pressure campaigns intended to constrain rogue nuclear activities: China's participation in international sanctions against Iran between 2006 and 2016, and against North Korea since 2006.

Finally, the authors reviewed several cases of potential Chinese economic coercion but where on balance China does not appear to have engaged in coercive economic measures as defined in this report, including Vietnam in 2014 and Chinese threats against U.S. companies engaging in arms sales to Taiwan starting in 2010. These cases were considered but were not formal case studies.

Concise summaries of the case studies are included in the next section, and more detailed descriptions are included in the annex of this report.

CASE STUDY SUMMARY

Japanese Maritime Dispute, 2010–2012
In September 2010, a Chinese trawler collided with a Japanese patrol boat in the disputed Senkaku/Diaoyu island chain, and the Japanese detained the Chinese skipper. After the confrontation, Beijing halted exports of rare earths, a key technology input, to Japan. Though some have argued that China had already taken steps before then to curtail the exports sharply, and therefore the ban was not politically motivated, the Japanese government assesses that it was targeted for political reasons and responded to the dispute as a foreign policy matter. Japan approved mitigation and diversification strategies for its affected companies and collaborated with the United States and European Union on a World Trade Organization (WTO) case against China, which the challengers won in 2014. The island dispute flared up again in 2012, when the government of Japan bought some of the islands from a private owner. This time, China took the lesser step of encouraging popular boycotts against Japanese goods and allowing protests that damaged Japanese companies in China.

Norwegian Nobel Prize Dispute, 2010–2016
China used coercive economic measures against Norway after the awarding of the 2010 Nobel Peace Prize to Chinese dissident Liu Xiaobo. Beijing cut off diplomatic relations and trade talks and used a series of sanitary and regulatory measures to significantly cut Norwegian salmon imports to China. Norway asked for some clarification at the WTO, with no result. A study has argued that the cut in salmon was economically only symbolic, given that Norway was able to reroute many of its exports to China through third countries.[19] After initially rejecting Chinese requests for both a public and a private, more strongly worded apology, Norway reached a resolution with Beijing on the matter in 2016. Norway acknowledged China's "sovereignty" and "core interests" and admitted it had harmed "mutual trust." Salmon exports to China quickly resumed as did trade talks between the two countries. During the economic coercion campaign, Norway declined to meet the Dalai Lama in 2014, and upon Liu's death in 2017 it issued a muted statement noting the passing.

Philippines Maritime Dispute, 2012–2016
In 2012, China and the Philippines clashed over the disputed Scarborough Shoal in the South China Sea. Although China had already begun applying extra sanitary controls on Filipino banana imports before the rise in tensions and there is no consensus on the full economic effect of the banana checks, the Philippines saw the step-up in controls on its agricultural exports as a political move. A restriction on Chinese tourists to the Philippines compounded this impression. Because the Philippines chose to solve the maritime dispute through an international tribunal, over the wishes of China, tensions flared up with regularity through 2016. As the decision neared (which the Philippines won), China again limited banana exports and tourism plummeted. The two countries moved closer together after the election of Filipino President Rodrigo Duterte and his more conciliatory policy toward Beijing in late 2016.

Taiwan's Elections, 2016
China has a long track record of using coercive economic measures against Taiwan. Since the 1990s China has also tried to influence Taiwanese elections and use economic coercion to gain support from Taiwanese business leaders. Beijing recently employed these tools after the election of President Tsa Ing-wen and her pro-independence Democratic Progressive Party. In response to her election, China cut off group tourism to the island. Through a series of diversification initiatives, Taiwan succeeded in replacing the lost Chinese tourists, primarily with visitors from Southeast Asia, though it did not fully replace the revenue lost from Chinese visitors. In addition to the tourism measures, China may have used leverage afforded by the large number of tuition-paying Chinese students in Taiwan to pressure university presidents to issue pro-Beijing statements. In 2018, China complemented its coercion campaign with an aggressive set of economic inducements meant to make the two countries more interdependent and presumably increase Beijing's leverage over Taipei.

Mongolia Dalai Lama Visit, 2016
China has a lengthy history of retaliating in various ways against countries that host the Dalai Lama, and Mongolia is a recent example. In November 2016, the Dalai Lama visited Mongolia to hold public events. Beijing, which sees the Tibetan leader as a separatist, responded to this visit by raising fees on Mongolian mining products, creating backups at a key border crossing, suspending bilateral interactions, and cutting off talks regarding a major loan. The Chinese cutoff of assistance loan talks, in particular, exacerbated the

coercive effect on Ulaanbaatar and accelerated the country's deteriorating fiscal situation, to which the International Monetary Fund (IMF) eventually responded with a bailout. Although it initially stood up to Chinese coercion, the Mongolian government eventually offered a public apology to Beijing, including a promise not to host the Dalai Lama in the future. The long-term deterrent effects of China's coercion on Ulaanbaatar's decisionmaking around hosting the Dalai Lama remain unclear given that Mongolia's subsequent leader reneged on this assurance.

South Korea THAAD Deployment, 2016–2017
In 2016 and 2017, South Korea announced and deployed the U.S. Terminal High-Altitude Area Defense (THAAD) missile system to counter potential North Korean missile activity. China saw this system as a threat and retaliated by imposing a range of coercive economic measures on Seoul and South Korean entities. Beijing curbed tourism, cut imports of cultural products such as cosmetics and popular music, and targeted auto companies. China also used regulatory measures, including alleged fire code violations, to close almost 90 Korean-owned Lotte Mart stores in China. Lotte Group, the parent company, had provided the land for the deployment of THAAD in Korea. China did not target all South Korean sectors; for example, it left exports of Korean semiconductors, key intermediate goods for Chinese companies, untouched. South Korea chose not to file a WTO complaint because of insufficient proof of the coercive campaign and out of fear of losing Chinese cooperation over North Korea. Seoul relented in October 2017 by issuing a list of assurances, the so-called three no's, meant to clarify to China that Seoul would not expand the scope of THAAD.

Chinese Students in Australia, 2017–Present
Recent revelations about Chinese influence in Australian politics, and the legislative measures to counter this influence, have fostered growing tension between the two countries. In response, China may be in the process of broadening its coercive toolkit by using Chinese tuition-paying students in Australia as a means of coercion akin to cutting off tourism. Education is Australia's third-largest export. Chinese students are almost 40 percent of foreign enrollees in Australia and account for almost a third of the revenue. The Chinese Foreign Ministry has, for example, issued a warning for Chinese students to exercise special vigilance in Australia. Chinese media fanned these flames. Much like Asian countries cut off from tourism, Australia has looked to Southeast Asia as a means of diversifying its foreign student body.

Iran's Nuclear Weapons Program, 2006–2016
While China engaged in economic coercion against Iran in response to its nuclear program, it adopted an ambivalent approach. Beijing voted for multiple U.N. Security Council resolutions starting in 2006. This move represented a break, since China had refused to support prior U.N. Iran sanctions resolutions. However, China also recurrently criticized the imposition of new sanctions and called for diplomacy while steadily increasing bilateral trade with Iran despite the U.N. sanctions. China adopted a similarly divided approach toward U.S. unilateral sanctions. Numerous Chinese companies violated U.S. sanctions and incurred U.S. penalties, and China critiqued unilateralism and extraterritoriality of the U.S. measures. At the same time, however, China lowered its imports of Iranian oil by more than 20 percent in 2012 and 2013. Similarly, Chinese state-owned firms appeared to reduce their work in Iran.

North Korean Nuclear Weapons Program, 2006–Present
As North Korea's largest trade partner and the supplier of key commodities, China holds significant leverage over Pyongyang. Beijing has chosen to use—and not use—this power at different moments. In a multilateral framework, China has supported periodic U.N. resolutions against North Korea since 2006, with an accelerating number of resolutions in 2016 and 2017. At the same time, at key moments, China has lobbied to water down the toughest U.N. measures. With regard to implementation, China has recently improved its legal frameworks to comply with U.N. sanctions, and it has alerted its companies and banks on the need to follow international regulations.[20] It appears to have dramatically reduced imports of North Korean coal. China has also previously engaged in unilateral economic coercion with North Korea, including allegedly shutting down a key oil pipeline in 2006.[21]

CHAPTER 2

Methodology of China's Coercive Economic Measures

KEY TAKEAWAYS

- China uses a range of coercive economic measures, including import and export restrictions, popular boycotts, restrictions on Chinese tourism, investment restrictions, restrictions on specific companies, and informal pressure on companies.
- China typically implements coercive economic measures using informal and/or extralegal measures, rather than formal financial sanctions. For example, China will selectively apply fire safety or food safety regulations on a targeted country or company, rather than placing the target on a formal, public blacklist. This gives China plausible deniability and greater flexibility to escalate and de-escalate.
- Most Chinese coercive economic measures rely on the size and importance of the Chinese market as the source of coercive leverage.
- Many cases of Chinese coercive economic measures have targeted democratic states. In these cases, China has typically targeted politically influential constituencies, even when the targets have no direct relationship to the policy China seeks to change.
- Countries have responded to Chinese coercive economic measures by working to identify alternative markets and through diplomacy and concessions.
- China is likely to expand its use of coercive economic measures in the midterm. The types of measures used are likely to remain similar to those used in recent cases, though there is a chance that China may formalize some of these tools and may develop new ones.

China's use of coercive economic measures is not new, and one of the first modern attempts was directed against the United States. In May 1905, the Shanghai Chamber of Commerce, a government-registered local business organization, called for a boycott of American goods after reports of mistreatment of Chinese immigrants and U.S. laws restricting Chinese labor. Though the boycott spread quickly, the Chinese government reversed its initial support for the movement under heavy U.S. government pressure and the movement quickly faded. Popular boycotts continued, though targeting Japanese goods, until the early days of the Mao Zedong era. Then, China's use of economic coercion, like China's broader international economic policies, faded and the country turned inward and isolated itself economically.

During its political and economic opening starting in the 1970s, the Chinese government generally opposed most coercive economic measures as tools of statecraft. Chinese officials have regularly opposed unilateral sanctions by the United States and other countries. Beijing has criticized the use of "long-arm jurisdiction" to penalize foreign companies for engaging in business that was authorized by local law.[22] This rhetorical opposition to coercive economic measures reflects China's commitment to Westphalian principles of noninterference in the domestic affairs of foreign states. It also stems from Beijing's own experience as a target of U.S. and European coercive economic measures, notably an arms embargo, imposed after the 1989 Tiananmen Square massacre. Beijing has made exceptions to its stated noninterference policy to embrace coercive measures enacted in international law by the U.N. Security Council. However, China has frequently used its seat on the U.N. Security Council to oppose international sanctions as well.

Despite this continuing rhetorical opposition, however, China has employed coercive economic measures in support of its foreign policy objectives in earnest since at least 2010, when it restricted rare earths exports to Japan. Since then it has used coercion regularly, becoming, as Jennifer Harris and Robert Blackwill have written, "the world's leading practitioner of geoeconomics."[23]

Studying cases of Chinese unilateral coercive economic measures since 2010 reveals several patterns of use.

First, China has primarily imposed unilateral coercive economic measures under a narrow set of circumstances: when it perceives a challenge to its territorial claims, its domestic political system, or to other of its explicitly articulated "core interests." The Japan and Philippines cases involved disputed territorial claims over islands

and maritime areas. The Taiwan and Mongolia cases reflected Chinese concern over regional separatism. Similarly, China viewed the award of the 2010 Nobel Prize to the dissident Liu, and Norway's tangential connection to the award, as an intervention in Chinese domestic politics. In the THAAD case, China perceived a threat to its sovereignty and freedom of action. Though South Korea and the United States consistently argued that the missile defense system did not threaten Chinese territory, the Chinese People's Liberation Army and other key Chinese officials worried that the THAAD's radar could penetrate well into Chinese territory.

China appears to be expanding the criteria or circumstances for deploying coercive economic measures. In recent months Beijing has signaled that it may curtail the number of Chinese students studying at Australian universities. Doing so would not be in response to a territorial dispute or perceived foreign meddling in domestic Chinese politics. Instead, limiting students would be an example of China reacting to heightened political tensions between Beijing and Canberra after revelations of Chinese influence in Australian politics.[24] An expanding set of circumstances in which China employs coercive economic measures is consistent with its overall move toward a more assertive foreign policy, its gradual enlargement of its self-identified "core interests," and the expanding array of economic levers as its economy and international economic connectivity grow.

China appears to be expanding the criteria or circumstances for deploying coercive economic measures.

China has not used unilateral coercive economic measures to defend global norms regarding the proliferation of weapons of mass destruction (WMD), international sovereignty and self-determination, human rights, or humanitarian catastrophe. For example, China has not implemented coercive economic measures on Syria or its enablers after President Bashar al-Assad's use of chemical weapons, on Russia after Moscow's territorial aggression against Ukraine, or on Myanmar in response to widespread political violence that has displaced hundreds of thousands of citizens.

Second, China generally deploys unilateral coercive economic measures in response to specific triggering events. In the Japan, Philippines, Mongolia, Taiwan, South Korea, and Norway cases, China used coercive economic measures after discrete precipitating decisions

China uses economic coercion against perceived challenges to territorial claims, including in its maritime dispute with the Philippines over the Scarborough Shoal. In 2017 about 6,000 U.S. and Filipino forces participated in the annual Balikatan exercise. (Dondi Tawatao/Getty Images)

by the target countries. Even China's willingness to use coercive measures against North Korea has often shifted after triggering events such as missile or nuclear tests. Conversely, China has refrained from using coercive economic measures without a particular target country provocation, even when bilateral relations between the two were in overall decline. Here, the emerging Australia case offers a potential exception. Alternatively, China's willingness to act without a specifically defined catalyst may be growing and a deteriorating bilateral relationship may be adequate provocation.

Third, China typically deploys unilateral coercive economic measures against smaller countries, rather than against larger or more advanced economies. China quickly punished Mongolia after the Dalai Lama's visit but was more circumspect after then-U.K. Prime Minister David Cameron met with the Tibetan leader. Rather than restricting ongoing, existing trade, Beijing canceled bilateral diplomatic contacts and made clear that the visit would impact future Chinese investment. Similarly, China has mostly refrained from targeting the United States. Even though THAAD is a U.S. defense system and it required significant U.S. pressure for South Korea to deploy it, Beijing directed its retaliation against Seoul.

China also appears to have acted out of "hybrid motivations" in several of the cases, deploying measures that both advance Chinese domestic economic policy goals and foreign policy goals. For example, China appears to

Although Vietnamese protests against a Chinese oil rig in the Vietnamese exclusive economic zone of the South China Sea damaged Chinese-run factories and caused worker evacuations, Beijing generally refrained from retaliating with coercive economic measures. (VCG/Stringer via Getty)

have initially implemented its rare earths export restrictions before its dispute with Japan in 2010, likely as an effort to advantage Chinese electronics manufacturers compared with foreign rivals. Then, after the dispute, China may have stepped up enforcement of the restrictions, causing both Japan and other countries to view the restrictions as economic coercion and treating the issue as a foreign policy matter.

Three instances since 2010 when China could have used coercive economic measures, but refrained from doing so, suggest an important additional consideration in the country's decisionmaking: Beijing weighs coercive economic measures' potential long-term negative impacts on China when deciding whether and how to deploy them. In some instances Beijing does not appear to see enough potential benefit, or the necessity, to deploying coercive economic measures and therefore does not do so.

In May 2014, a state-owned Chinese oil company deployed an oil rig to explore for oil in a portion of the South China Sea that falls within Vietnam's exclusive economic zone (EEZ). The drilling triggered a tense diplomatic and maritime standoff and prompted anti-Chinese protests in Vietnam that damaged a number of Chinese-run factories before the Vietnamese government took steps to quell the protests.[25] Moreover, in the dispute, China actually had more economic leverage over Vietnam than it did over the Philippines when Beijing and Manila had their own South China Sea disagreement two years earlier.[26] However, contemporaneous accounts generally do not indicate that China systematically threatened or imposed economic sanctions against Vietnam as part of the dispute,[27] and an in-depth study of the clash published in 2017 that included interviews with Vietnamese officials argued that Chinese officials had quietly informed their Vietnamese counterparts that they wanted to maintain normal trade ties.[28] China has, however, recently used other types of threats and diplomacy to convince Vietnam to largely drop its own plans to drill in the disputed area, the timing of which may reflect an assessment that China faces fewer collateral costs from engaging in such coercion today than it did in 2014.[29]

China also refrained from using coercive economic measures—aside from popular boycotts—against Japan since the 2010 rare earths restrictions, despite periods of escalated territorial tensions. For example, in 2012 the Japanese government agreed to purchase three of the Senkaku/Diaoyu islands from the private owners. The action triggered sharp criticism from Beijing, anti-Japanese protests that resulted in damage to Japanese-owned facilities in China, and popular boycotts of Japanese products. [30] However, interviews with Japanese officials and experts indicate that China did not appear to apply more direct coercive economic measures, such as restrictions on Japanese corporate operations in China.

In a third set of circumstances of Chinese restraint, from 2010[31] and 2015,[32] China publicly threatened to

China did not use formal coercive economic measures after the 2012 Japanese purchase of the disputed Senkaku/Diaoyu islands, but it did allow and possibly encouraged popular boycotts and protests such as the one in front of the Japanese Embassy in Beijing. (Getty Images)

impose sanctions on U.S. companies that participated in arms sales to Taiwan, but then withdrew. Even though Beijing ultimately refrained, the episode is a rare instance of China explicitly announcing its intent to impose coercive economic measures in the context of a foreign policy dispute. This lack of Chinese follow-through almost certainly reflects Beijing's limited leverage over U.S. defense contractors given that the United States banned most defense exports to China in 1989. But no publicly available evidence indicated that China has, in fact, retaliated against civilian products made by U.S. defense firms that sold arms to Taiwan. For example, Sikorsky has continued to sell civilian helicopters in China, including a small number of sales to Chinese government entities (Sikorsky's market share in China is relatively small).

In implementing import restrictions, China has generally targeted products that it can either source from alternative suppliers or that it produces domestically.

Each of these instances appears, on the surface, to represent a situation when China would at least have considered deploying coercive economic measures. In each case, however, China could have risked significant adverse, long-term collateral impacts. The Vietnam case occurred while Washington and Hanoi were negotiating to allow expanded U.S. arms sales to Vietnam. China likely worried that further escalating the Sino-Vietnamese oil drilling dispute would have pushed Vietnam closer to the United States.[33] Similarly, interviews in Japan suggest that China likely refrained from imposing stronger coercive economic measures in 2012 because China was (and is still) actively seeking high-tech Japanese investment, and it likely worried that coercive economic measures would deter Japanese companies from locating facilities in China. Moreover, the forceful Japanese response in 2010 seems to have, according to Japanese experts, deterred further coercion. In 2010 and 2015, China likely decided against following through on threats of sanctions against U.S. companies in order to avoid exacerbating tensions with the United States, a relationship that was showing significant strain.

China often uses selective implementation of domestic regulations, such as sanitary checks on Filipino banana imports, to create costs for targeted countries. (Jes Asnar/Getty Images)

Types of Chinese Coercive Economic Tools

Since 2010, China has relied on a range of tools to implement its measures. Broadly, these tools fall into two major categories: inbound restrictions and outbound restrictions. The former limit foreign access to the Chinese market, including pressuring individual foreign companies or encouraging Chinese consumers to reject goods from targeted countries. The latter category involves cutting off targeted countries from China, whether its tourists or, in the case of Japan, its raw materials.

The primary Chinese inbound restriction tools have been:

IMPORT RESTRICTIONS

Multiple cases of Chinese coercive economic measures involve restrictions on imports of foreign products into China. These include restrictions of Norwegian fish into China; Philippine bananas and other fruit; South Korean cosmetics and cultural products; North Korean coal and other products; and Iranian oil. Chinese restrictions on Chinese tourists traveling abroad, which would be classified as import restrictions in most economic analyses of Chinese imports and exports, are discussed separately.

In implementing import restrictions, China has generally targeted products that it can either source from alternative suppliers or that China produces domestically. China has not imposed restrictions on products, such as component parts for manufactured goods, when doing so could adversely impact Chinese companies, even when such restrictions could impose significant

economic costs on the targets. For example, during the 2017 dispute with South Korea, China targeted imports of cosmetics and cultural products but not semiconductors, for which imports rose during the height of the dispute.[34] Similarly, during its pressure campaign on Manila, Beijing did not target Filipino-produced intermediate electronics goods, including semiconductors, even though the Chinese market accounted for up to half of the purchases of these exports, giving China significant leverage.[35]

POPULAR BOYCOTTS

Popular boycotts played a significant role during the Chinese disputes with Japan and South Korea and have a lengthy history in China.[36] Contemporary boycotts exhibit genuine grass-roots support by the Chinese people and companies and are not solely directed by the Chinese government. However, China's tight control of state media and strict censorship standards give the government a strong set of levers to either encourage or discourage popular boycotts against a target country during a foreign policy dispute. In late 2017, Chinese officials threatened Australia with a potential popular boycott of certain Australian products as retaliation for new Australian laws restricting Chinese political activity in Australia. This suggests that Chinese officials themselves assess that they are able to launch and facilitate popular boycotts as a coercive economic tool.[37]

Popular boycotts differ from import restrictions in several ways. First, popular boycotts may target foreign-branded products produced inside China, as well as imported goods. Second, import restrictions generally include some legal or regulatory measure, such as targeted food safety inspections, where popular boycotts include public calls for consumers to refrain from purchasing a targeted good, but without a legal or regulatory measure.

Popular boycotts do, however, carry some risk for China of adverse collateral consequences, particularly if Chinese citizens reduce purchases of foreign-branded goods that are actually manufactured in China. For example, in 2017 China's retaliation for Korea's THAAD deployment included popular boycotts of several Korean goods, including Korean cars that were made in China—adversely impacting Chinese workers at the Korean-linked automotive plants.[38]

INVESTMENT RESTRICTIONS

Historically, China has required Taiwanese businesses seeking to invest in China to support the "One China" policy and to restrain open support for Taiwanese independence. However, in the unilateral coercion cases studied, Beijing has avoided such investment restrictions. This caution reflects (a) China's already relatively strict limits on foreign investment into the country for domestic economic reasons, and (b) China's domestic economic policy reasons for allowing foreign investment where it does—e.g., Beijing's support for investment (through joint ventures) in certain high-tech sectors. As a result, there are likely few areas of foreign investment in China that Beijing could restrict as a coercive economic measure unless it were willing to accept collateral economic costs for its own economy. If China liberalizes its economy and allows additional foreign investment, it may increasingly use restrictions as coercive economic measures.

PRESSURE ON SPECIFIC COMPANIES

In recent years, China has increased its pressure on specific foreign corporate interests operating inside China. During the Sino-South Korean dispute Beijing used alleged fire-code violations to close the vast majority of South Korean conglomerate Lotte Group department stores in China after Lotte transferred land to the South Korean government for the THAAD deployment.[39] The restrictions reportedly cost Lotte approximately $46 million per quarter, and after about half a year of pressure, Lotte announced plans to sell its Chinese stores.[40] Though not a formal case examined in this report, in early 2018 China directly pressured Western companies, including Delta, Marriott, and Daimler, to stop listing Taiwan as a "country" on their websites, or, in Daimler's case, to apologize for supporting the Dalai Lama in a corporate social media feed. These actions in some ways parallel China's

As part of its response to the South Korean THAAD deployment, China targeted Lotte Mart stores, a Beijing location pictured above, forcing Lotte to close almost 90 stores over alleged fire code violations. (螺钉/Wikimedia Commons)

long-standing practice of engaging directly with Taiwanese companies operating in China to ensure that the business and executives support the "One China" policy and do not support Taiwanese independence.[41]

The primary outbound restrictions China has used to target countries include:

EXPORT RESTRICTIONS

China's rare earths exports ban represents the only case of unilateral sanctions studied in this project that included restrictions on exports of Chinese products, though both the Iran and North Korea cases also included restrictions on the export of certain items to North Korea and Iran as required by U.N. Security Council resolutions and under U.S. pressure. (China also maintains regulations governing the export of certain controlled items, such as chemical, biological, and nuclear-related items. In 2017, it proposed a new, comprehensive Export Control Law that is discussed later in this report).

The relative paucity of export-related Chinese coercive economic measures likely reflects several factors. Exports comprise roughly 20 percent of China's gross domestic product (GDP) and the country wants to maintain its reputation as a reliable supplier of goods and services to the global market rather than encouraging other countries to diversify supply chains away from China. Beijing's rare earths export ban experience may also have discouraged further export-related coercive economic measures. In 2014, the World Trade Organization (WTO) concluded that the ban violated national treatment requirements, and China had to abandon its restrictions that year. By then, the ban had also encouraged Japan, the United States, and other countries to develop alternative sources of rare earths supplies in Australia and other countries.

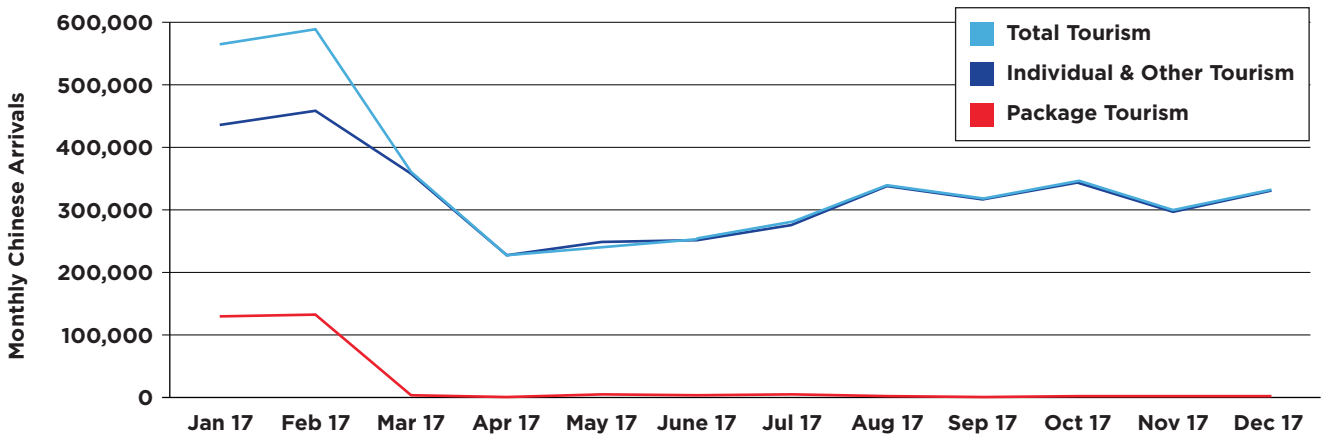
China may, however, return to export restrictions. This could occur if China determines that it could do so without facing adverse trade remedy consequences or that foreign purchasers could not find alternative suppliers (thereby simply transferring purchases of the goods from China to other countries). China's efforts to move up in the value chain and to master the transformative technologies of the future—from robotics to electric vehicles—may not only protect Beijing from foreign attempts to coerce it but may also give it new export restriction levers to pull to coerce adversaries.

RESTRICTIONS ON CHINESE TOURISM

Restrictions on Chinese package tourism played a significant role in the coercive economic measures imposed on both Taiwan in 2016 and on South Korea in 2017, as well as in an early example in the Philippines starting in 2012 and then again in 2016. For example, according to South Korean government data, overall tourism from China to Korea fell by 48 percent in 2017 compared with 2016, with the majority of the decline being in Chinese group tourism, which fell from approximately 130,000 visitors per month in January and February of 2017 to an average of fewer than 3,000 per month for the remainder of the year.[42] Tourism appears likely to be an attractive Chinese coercive economic tool in the coming years, given that Chinese tourists are now the world's largest-spending overseas tourists.[43] Restrictions on tourism are also likely appealing because they can impose meaningful economic costs on target countries with few collateral costs on China.

Chinese Tourism to South Korea[44]

The fall in package tourism from China to South Korea was particularly stark during the tension over THAAD deployment.



(Ministry of Foreign Affairs, Republic of Korea)

Chinese overseas students may emerge as a related, effective coercive economic tool for China, given the similar ability for Beijing to impose costs on a target country but sustain relatively limited collateral costs at home. For example, in late 2017 and early 2018 China threatened to curtail attendance at Australian universities by Chinese students,[45] who make up almost 40 percent of foreign students and supply a significant source of revenue for Australian higher education.[46]

TARGETED FINANCIAL MEASURES

Beijing has generally avoided imposing targeted financial sanctions within the context of Chinese unilateral sanctions. However, China has apparently issued directives to Chinese financial institutions instructing them to implement U.N. sanctions on North Korea and to take a generally cautious approach to any business related to North Korean commerce.[47] Similarly, in 2010 the Chinese government published regulatory guidance establishing and implementing a terrorist finance sanctions blacklist.[48]

Figure 2: Chinese Coercive Tools by Case

COUNTRY NAME	CASE	POPULAR BOYCOTTS	IMPORT RESTRICTIONS	EXPORT RESTRICTIONS	CORPORATE PRESSURE	TOURISM RESTRICTIONS
Unilateral Chinese Economic Coercion						
Japan	Territorial dispute over Senkaku/Diaoyu Islands	●		●		
Norway	Nobel Peace Prize award to Chinese dissident Liu Xiaobo		●			
Philippines	Territorial dispute over Scarborough Shoal in South China Sea		●			●
Taiwan	Election of pro-independence President Tsai Ing-wen and Democratic Progressive Party				●	●
Mongolia	Hosting the Dalai Lama		●			
South Korea	Deployment of U.S. THAAD anti-missile system	●	●		●	●
Australia	Potential measures to counter Chinese influence in Australian politics	●				●
Chinese Participation in Multilateral Economic Coercion						
Iran	Nuclear and missile proliferation		●	●		
North Korea	Nuclear and missile proliferation		●	●		

China's Preference for 'Informal' Coercive Economic Measures

To date, China has not developed a formal, legal or regulatory framework for its unilateral coercive economic measures. U.S. coercive economic measures involve a highly formalized approach. For example, a U.S. sanctions executive order establishes a foreign policy concern and goal in the service of which sanctions will be deployed, the coercive economic mechanism, or formulation of sanctions, to achieve such ends, as well as the legal authority permitting the action. By comparison, China has relied largely on informal mechanisms such as its control of the media and state-owned enterprises and the selective application of domestic regulations. This informality gives Beijing's actions a degree of plausible deniability. China is certainly not unique in its use of informal measures. Even in the United States, for example, Congress has urged telecommunications companies to refrain from entering into deals with Chinese telecommunications companies and Congress has repeatedly pressed companies to refrain from doing business with Iran, even when such business is legally allowed.[49] China is, however, unequaled in the strength of its political and administrative control, from the media to regulators, giving its informal economic coercion an unparalleled breadth and power.

China used domestic environmental regulations to implement its 2010 restriction on rare earths exports. It used food safety inspections on Norwegian salmon in 2010 and on Filipino bananas in 2012. In 2017, China appears to have informally pressured package tour operators, including through text messages, to cut trips to South Korea.[50] China also used product safety regulations to curb imports of South Korean cosmetics in 2017 and cited fire code violations as the basis for closing South Korean-owned Lotte department stores in China. China used stepped-up border inspections and increased fees as the primary mechanisms for slowing export truck traffic from Mongolia to China in late 2016 and early 2017. Across several of the cases, China used state media to encourage or discourage popular boycotts of target country goods.

China's preference for informal tools such as use of the state media and for selective application of domestic regulations to implement coercive economic measures reflects several factors and provides China with multiple policy benefits.

First, at a basic level, China uses these types of measures because it has never established a broad legal regime to implement sanctions and trade controls. Although Beijing maintains a terrorist finance blacklist and has maintained several export control rules governing exports of WMD-sensitive products, it does not have a general system of export regulations, U.S.-style sanctions regulations, or import regulations that are explicitly designed to be invoked in the context of foreign policy objectives or concerns. (In 2017 China did publish a draft Export Control Law that could, if adopted, be used in the future to implement certain coercive economic measures).

Second, China's informal measures and selective implementation of domestic laws give it public plausible deniability when imposing coercive economic measures. While China generally makes target countries aware of the intent of its coercive economic measures through their timing and private messaging, by not establishing a legalized sanctions regime Beijing can maintain its declared public opposition to unilateral sanctions as a foreign policy tool.

This plausible deniability also gives China flexibility on when to lift coercive economic measures. Because China does not formally implement coercive economic measures in response to a foreign policy dispute, China can reduce or terminate them even when it achieves only a partly successful resolution to the underlying issue. For example, when China first retaliated against South Korea, Chinese public statements indicated that Beijing hoped Seoul would remove the THAAD system. Seoul, however, was extremely unlikely to remove the system after its deployment given the ongoing North Korean nuclear threat and the strong U.S. interest in maintaining the system. China ultimately reached a diplomatic agreement short of its original goals. Seoul reiterated that South Korea would not expand the THAAD system and would not connect South Korean air defense systems to Japanese air defense systems. In exchange, Beijing indicated that it would ease the coercive economic measures. Given that China achieved an incomplete objective, it might have had a more difficult time loosening its measures had it formally promulgated them as a response to the THAAD deployment.

Third, China's use of informal measures and selective application of domestic legal regimes match its regulatory practice across domestic economic policy. For example, in recent years China appears to have used selective enforcement of its anti-monopoly law and other domestic economic measures to favor Chinese national companies against foreign competitors and to advance national economic policies.[51] U.S. and international companies also report numerous examples of dealing with informal requirements imposed by Chinese government officials.

Beijing's loss at the WTO in 2014 after China's 2010 ban on rare earths exports to Japan may have discouraged China from using export restrictions as coercion in subsequent cases. This suggests that China's membership in the organization, demonstrated here by Chinese President Hu Jintao's address to the WTO on the 10th anniversary of China's accession, can restrain China's conduct. (Pool/Getty Images)

Finally, China may assess that informal measures and the selective application of domestic regulations reduce the risk of WTO or other trade remedy challenges to its actions. China's domestic economic policies regularly draw WTO challenges, and Japan, the European Union, and the United States brought a successful WTO case against China's restrictions on rare earths exports. Informal measures such as the use of state media to encourage popular boycotts and selective, temporary application of customs inspections and other measures, however, are much more difficult to challenge under current WTO rules.

China even uses informal measures when participating in multilateral economic pressure campaigns. For example, in 2012 and 2013 China reduced Iranian crude oil imports in response to U.S. pressure. Similarly, anecdotal reports indicate that in 2017 Beijing significantly stepped up customs and other checks along the Chinese-North Korean border as part of the U.N. sanctions campaign against Pyongyang's nuclear program. However, in both these cases China also relied more heavily on formal regulatory measures than in its unilateral coercive economic measures. In 2017, China's Ministry of Commerce published formal directives ordering Chinese companies to cease importing certain North Korea-origin products prohibited by U.N. Security Council resolutions.[52] Similarly, the People's Bank of China has reportedly circulated notices to Chinese banks directing them to comply with Security Council financial sanctions on North Korea.[53] In both these cases, though, the financial regulations do not appear to have been released publicly.

Methodology of Chinese Targeting

China typically targets its unilateral coercive economic measures at politically and economically sensitive constituencies in target countries—even if the targets themselves have little direct connection to the activity China finds objectionable. Chinese targeting therefore differs from U.S. and European coercive economic measures, which at least initially tend to target officials, government entities, and companies involved in the objectionable behavior, and their facilitators.[54]

Several examples illustrate this point. China's 2010 rare earths export restrictions targeted certain Japanese electronics and high-tech manufacturing companies, even though the affected companies had no connection to the underlying Senkaku/Diaoyu dispute. Similarly, the Norwegian salmon producers targeted by China's import restrictions had no involvement with the Norwegian Nobel Committee's honoring of Liu. Indeed, virtually none of China's coercive economic measures in the cases studied involved direct pressure against officials involved in formulating and executing the policies to which China objected, though separate Chinese diplomatic moves often have directly targeted decisionmaking constituencies. In only a handful of cases did Beijing direct coercive economic measures against specific companies that facilitated the policies Beijing opposed.

China's targeting of politically and economically influential constituencies in offending countries, rather than targeting the entities directly responsible, appears

China targeted Norwegian salmon exporters rather than any of the parties directly involved in the awarding of the 2010 Nobel Peace Prize to imprisoned Chinese dissident Liu Xiaobo. At the award ceremony, an empty chair marked his absence. (Marta B. Haga/ MFA, Oslo)

based on multiple factors often related to the nature of the target. Most of Beijing's unilateral coercive economic measures aim at democratic states. In part, China uses coercion against these states because bribery, corruption, and positive inducements China uses to influence authoritarian states are harder to use against constituencies in a democracy and are less likely to succeed.[55] Chinese officials expect that they can sway democratically elected policymakers in target governments by pressuring influential constituencies. China also likely recognizes the greater coercive economic leverage it has over influential business interests compared with officials and ministries that formulate policies objectionable to China. Because China has historically restricted investments inside China in many sectors, generally speaking most targeted democratic governments likely have little state-owned business in China, though that general trend will change if China continues to open itself to greater foreign investment.

China's focus on influential, often commercial, constituencies also allows it to deploy targeting expertise it has already developed in the context of trade disputes. For example, in 2000, after South Korea restricted imports of Chinese garlic, China retaliated with far more aggressive measures against cellphones and polyethylene, two leading South Korean products.[56] More recently, in response to the U.S. tariffs on Chinese products announced in early 2018, China has included politically sensitive products on its list of potential retaliatory measures.[57] As a consequence, targeting politically salient constituencies is a methodology that Chinese policymakers are already broadly familiar and comfortable with.

Additionally, Chinese coercive economic measures often appear designed to economically benefit Chinese companies concurrently with giving the government leverage over a target country in a foreign policy dispute. Since many of the countries targeted by Beijing embrace a liberal economic model, China's coercive economic measures that also advantage Chinese domestic companies will likely impact foreign private companies that may not benefit from state credit and bailouts in the manner of some Chinese firms. This can give Chinese firms a leg up in direct competition with foreign competitors.

China's rare earths export restrictions illustrate both a foreign policy and Chinese domestic economic benefit. Several experts have pointed out that China actually began restricting exports of rare earths prior to the Sino-Japanese dispute that was seen as triggering the restriction.[58] In this narrative, the restrictions after the Senkaku/Diaoyu clash largely took the form of stepped-up enforcement of the ban, combined with greater popular attention to the issue. Chinese officials may have decided that increased enforcement of the ban would send a useful coercive message to Japan while economically benefiting Chinese users of rare earths vis-à-vis their foreign competitors. Similarly, China's 2017 restrictions on imports of South Korean cosmetics provided benefits to competing Chinese cosmetics producers.[59] And Beijing's decision to close most Lotte department stores in China as part of its response to South Korea's THAAD deployment provided a direct benefit to domestic Chinese competitors.

China's focus on influential, often commercial, constituencies allows it to deploy targeting expertise it has already developed in the context of trade disputes.

To date, most unilateral Chinese coercive economic measures have targeted categories of products, such as bananas or salmon, rather than specific companies. That may be changing. China may be beginning to target specific companies that it sees as supporting policies it objects to. China targeted Lotte because it provided land to the South Korean government to deploy the THAAD missile defense system. Moreover, China has been pressuring Western companies such as Delta, Marriott, and Daimler directly, insisting that statements on websites and social media accounts accord with Chinese policies on Taiwan and the Dalai Lama. This pattern appears to be accelerating, with United Airlines and American Airlines receiving similar threats from China over their listing of "separatist" entities such as Taiwan in their public-facing promotions.[60] The U.S. administration's forceful response criticizing China's "threatening and coercion" may represent an evolution in U.S. posture toward these Chinese measures.[61]

Reasons for Increased Chinese Economic Coercion

There are several reasons for China's increasing use of coercive economic measures as a foreign policy tool. The first is simple economics: China's scale in terms of its raw economic size, importance as a trading partner and source of investment, and centrality as a market for global firms give Beijing the capacity to use coercive

China is likely to increase its use of coercive economic measures as a result of its overall more aggressive foreign policy under the leadership of President Xi Jinping, pictured above addressing the 19th National Congress of the Communist Party of China. (Etienne Oliveau/Getty Images)

economic measures that it lacked until recently. China's GDP reached $12 trillion in 2017 (at nominal exchange rates), making China the world's second-largest economy—with a GDP nearly 2.5 times that of Japan, the world's third largest. By various measures China has equaled or surpassed the United States as the world's most important trading nation.[62] China is estimated to be the single largest trading partner of 130 countries in 2017, including countries as diverse as South Korea, Vietnam, Australia, Germany, the United States, and Brazil.[63]

Moreover, Chinese overseas investment has also grown rapidly in recent years and has comprised at least 10 percent of total global outbound foreign direct investment (FDI) each year since the 2008 global financial crisis.[64] The country is also an important market for multinational firms that sell services in China or make products within China for the Chinese market. Ford Motor Co., for example, sold nearly 1.2 million cars in China in 2017, and all but 19,000 of those were made there.[65] Similarly, about 20 percent of Apple's worldwide sales are in China.[66] While these products are made in China, any effort by China to discourage the sale of U.S.-owned products inside China relative to Chinese-owned competitor products would have a significant impact on the profitability of the targeted U.S. firms.

In addition, the high prevalence of state-owned enterprises (SOEs) in China and strong Chinese control, including through informal mechanisms, of the country's economy provide the Chinese government and the Communist Party ample levers to engage in economic coercion. If China wants to coerce a neighboring country or a company, it does not need to enact new laws or regulations; a simple call from senior authorities to step up customs enforcement, or for state-owned enterprises to curtail purchases of certain products, will suffice.

Against this backdrop, China's ambition and creativity to harness its economic leverage are expanding. As a government-connected Chinese think tank recognized in 2009, "Given the fact that our nation has increasing economic power, we should prudently use economic sanctions against those countries that undermine world peace and threaten our country's national interests."[67]

Second, China has increased its use of coercive economic measures in accordance with an expanding, assertive foreign policy posture. This new posture took shape after the 2008 global financial crisis under President Hu Jintao and has become rapidly more prominent and formidable under President Xi Jinping since 2012. Many commentators have argued that this assertive trend will continue.[68] Previously, Chinese foreign policy was governed by Deng Xiaoping's "24-character" strategy, which generally eschewed use of coercive economic measures out of concern that they would alienate countries and undermine China's rise. Today, China appears far more politically and diplomatically comfortable with measures that make clear to countries that there are costs for crossing Beijing, from a show of military and diplomatic strength to the use of coercive and predatory economic activities.

Third, China's increased use of coercive economic measures may respond to and be intended to build upon Chinese nationalism and domestic political considerations. Several scholars have persuasively argued that there is a significant domestic political component to China's use of coercive economic measures: James Reilly, for example, has argued that Chinese coercive economic measures often let Beijing show domestic audiences that China is "doing something" about a diplomatic or foreign policy dispute that grabs headlines and popular attention in China.[69] Even if the measures are informal and the government may deny a link to the foreign policy dispute at hand, foreign governments' protests and the targets' economic hardship may satisfy nationalistic impulses within China. William Norris has also argued that Chinese domestic political considerations play a prominent role across both China's global trade and investment strategy and its coercive economic statecraft.[70]

Target Country Responses

Countries targeted by Chinese unilateral coercive economic measures have generally adopted one or more of three major policy responses to Beijing's actions.

WTO TRADE REMEDY CHALLENGES

To date, Japan is the only country targeted by Chinese coercive economic measures to bring a WTO challenge in response. Japan, joined by the United States and the European Union, won its WTO challenge against China's rare earths export restrictions when the body concluded that Beijing's measures violated global trade rules.[71] As discussed elsewhere in this report, China implemented the rare earths restrictions using Chinese domestic environmental laws, and the WTO concluded that the application of the law to exports, but not to Chinese domestic users, violated WTO national treatment obligations.

> **WTO challenges are likely to provide little relief to countries targeted by Chinese coercive economic measures going forward.**

However, WTO challenges are likely to provide little relief to countries targeted by Chinese coercive economic measures going forward. This is largely because China has adapted its measures to specifically insulate them from WTO challenges. For example, though South Korea considered bringing a WTO challenge in 2017 according to both public press reports[72] and private interviews, it ultimately chose not to. This decision was partly the result of the South Korean government's focus on de-escalating tensions with Beijing and its fears that a WTO challenge might have worsened diplomatic relations. But the decision was also based on the South Korean government's calculation that it would be challenging to win a WTO case given the absence of sufficient, formal Chinese directives or legal guidance associated with the measures. Exacerbating the difficulty, one of Beijing's most prominent measures, the restriction on tourism, is not prohibited by WTO rules. Other recent Chinese coercive economic measures, such as China's slowing of trucks crossing the Mongolia-China border and the potential slowdown in Chinese students sent to study in Australia, would be similarly difficult to challenge at the WTO.

DIVERSIFICATION OF BUSINESS RELATIONSHIPS

Countries targeted by Chinese coercive economic measures have sought to diversify their economic relationships, driven in part by concerns about how excessive economic reliance on China gives Beijing undue leverage. After the 2010 Senkaku/Diaoyu dispute, Japan worked with the United States and other governments to diversify its rare earths supplies, and within several years these efforts had largely broken China's monopoly on rare earths mining.[73] Even outside reliance on specific Chinese products or commodities, officials in Japan, South Korea, and Taiwan all cite potential Chinese economic coercion as a motivating factor behind their respective initiatives to diversify their business relationships: Taiwan's "New Southbound Policy," Korea's "New Southern Policy," and Japan's "Free and Open Indo-Pacific" strategy.

Diversifying business relationships can soften the impact of Chinese economic coercion. After China's curbs on tourism to Taiwan in early 2016, Taipei launched an aggressive effort to attract tourists from other countries, mitigating the blow of China's measures. Along with South Korea, for example, Taiwan has worked doggedly to draw tourists from among the world's 1.8 billion Muslims, who reside primarily outside of China.[74] Similarly, reducing reliance on the Chinese market diminishes China's relative economic leverage and, over time, hardens a country as a target of Chinese coercive economic measures. Japan's aggressive diversification of rare earths not only served as a successful response to an immediate crisis but also foreclosed future Chinese coercion attempts in this economic area.

However, the sheer size and importance of China's economy make it difficult for foreign countries and companies to achieve truly defensive diversification. China, with its 1.4 billion population, is and is likely to remain the world's largest consumer of numerous minerals, materials, and component goods. China will continue to overshadow most other countries as a potential end market for goods and services. While diversification can reduce short-term vulnerability to coercion by providing alternative supplies and outlets, many countries and companies will always look to China as a dominant market. As a consequence, China will maintain its coercive economic leverage over the near term, midterm, and long term.

NEGOTIATION AND DIPLOMATIC CONCESSIONS

Finally, in most of the cases studied, target countries have sought to negotiate with China and several have offered diplomatic concessions to restore economic

Most countries have relied at least in part on negotiation and diplomatic concessions to address Chinese economic coercion. In the case of the Philippines, the meeting between Presidents Xi Jinping and Rodrigo Duterte in 2016, led to China announcing an end to the pressure campaign. (Pool/Getty Images)

ties with Beijing. South Korea, for example, ultimately reiterated several diplomatic commitments regarding limits on the THAAD missile deployment in exchange for China reducing its coercive economic measures and improving bilateral ties generally.[75] Several weeks after China restricted Mongolian trucks carrying Mongolian products into China, the Mongolian government issued a public apology for hosting the Dalai Lama and committed to refrain from hosting him again.[76] Norway ultimately issued a statement acknowledging Chinese core interests and national sovereignty.[77] And after the Philippines elected Rodrigo Duterte in 2016, Duterte acquiesced to some, though not all, Chinese claims in the South China Sea as part of a broader initiative to restore relations with China and obtain relief from China's restrictions on imports of Filipino bananas and other products.

> **Diplomatic concessions offered by the targets of China's coercion have rarely represented a complete capitulation to Chinese demands.**

As part of these concessions, China has dictated the terms of diplomatic engagement. During the peak of the THAAD tensions, South Korean officials noted an inability to communicate with their counterparts in Beijing, a roadblock that impeded a resolution. This track record of diplomatic resolution and display of some Chinese flexibility in negotiation likely inhibited large-scale shaming campaigns against China. In the cases covered by this report, no country adopted all-out initiatives to confront China and gather global support as an alternative to engagement and diplomacy. Instead, the most vigorous responses came from Japan, which brought its case to the WTO.

Diplomatic concessions offered by the targets of China's coercion have rarely represented a complete capitulation to Chinese demands. South Korea did not shut down the THAAD missile defense system, and Norway did not commit to never again award a Nobel Prize related to Chinese dissidents. In Taiwan, Tsai has generally refrained from taking deliberately provocative stands on independence issues, but she has also refrained from taking a particularly conciliatory attitude toward Beijing.

In addition, Chinese economic coercion was often just one of the factors prompting diplomatic concessions. Norway, for example, was at least as concerned about the prospect of long-term diplomatic isolation from China as it was about the lost salmon exports, which ultimately did not have a major impact on the Norwegian salmon industry. Author interviews in Korea suggest that while economic coercion likely factored in Seoul's desire to improve relations with Beijing after the THAAD deployment, its goal of keeping China engaged to press North Korea to freeze and reverse its nuclear program was just as relevant.

Future Evolution of China's Use of Coercive Economic Measures

China is likely to expand its use of coercive economic measures in the near and medium term. The reasons for this will mostly track those that have motivated China to employ coercive economic measures with growing frequency over the past decade. Going forward, China's economy will only grow in relative strength—and with that so will Beijing's global economic leverage. In fact, even if China's clout in the financial system does not increase, its overseas lending and investment as part of initiatives such as BRI will give it further potential for economic coercion. Similarly, China and Xi's foreign policy assertiveness will also continue to grow, making Beijing less concerned about potential diplomatic blowback from its coercion. Finally, the domestic popular support associated with deployment of economic coercion is an ongoing dynamic that may become more prominent, with growing nationalist sentiment

encouraging the broader and more forceful use of these tools in the future.

The major building blocks and methodology of Beijing's coercive economic measures will likely remain stable over the next decade. The size of its economy will remain central to its coercion. China will also continue to use informal measures and selective implementation of regulation as its primary tools. Beijing is familiar with these tools, they offer China key advantages, and there is plenty of space for evolution in the criteria for use and scope of deployment to satisfy China's expanding global posture.

China appears unlikely to adopt U.S.-style financial sanctions.

The Belt and Road Initiative (BRI) is a globe-spanning set of projects that will likely give China additional economic leverage for coercion over the next decade. The 2017 Belt and Road Forum for International Cooperation brought together attendees from more than 130 countries. (Pool/Getty Images)

However, there are also several additional coercive economic tools that China may deploy over the midterm. In mid-2017 China announced a draft Export Control Law that would significantly overhaul China's current ad hoc export control regime. China is likely to adopt it in 2018. While the Export Control Law is primarily designed to improve the regulation of sensitive exports, such as WMD-related and dual-use exports, the draft law also includes an authorization to impose export controls in response to foreign policy disputes.[78] China will probably use this law in implementing U.N.-backed trade restrictions and embargoes, and perhaps even in some of its unilateral coercive economic measures. With this law, China may again use export restrictions as a coercive economic measure if it can identify other cases where it controls a product that a target country needs and for which it cannot easily find an alternative supplier, and where Beijing faces manageable WTO and other trade remedy costs.

Notwithstanding its expanding legal authorities and comfort with declaratory and interventionist foreign policy forays, China appears unlikely to adopt U.S.-style financial sanctions. China's position in the international financial system remains relatively small and U.S.-style measures would require Beijing to formally, publicly embrace coercive economic measures, something it has been reluctant to do. (China could, however, adopt U.S.-style financial sanctions over the longer term as China becomes a more dominant player in international finance.) However, China could weaponize its capital controls in the context of a foreign policy dispute. Beijing typically requires companies seeking to move money out of China to first obtain authorization from the People's Bank of China or the State Administration of Foreign Exchange. These requirements have already periodically impaired Japanese and American companies' ability to receive payments from subsidiaries and joint ventures in China. So far, the impairments appear to be related to China's policy of slowing capital outflows rather than to foreign policy considerations.[79] In the future, China could deny requests to transfer payments from Chinese subsidiaries and joint ventures to their overseas parent companies as a coercive economic tool.

Though it has mostly refrained from using foreign policy-motivated restrictions on inbound and outbound investment to date, China may increasingly turn to such coercive economic measures going forward. It could expand on its practice of requiring that governments adhere to certain political conditions, such as supporting the "One China" policy, as a condition of receiving Chinese government loans and other assistance. As Chinese overseas direct investment by private Chinese companies and by Chinese SOEs grows, Beijing may expand the conditions attached to investment and threaten to curtail planned investments in countries that confront China with a foreign policy or diplomatic challenge. The suspension of loan talks in Mongolia after the Dalai Lama visit may point to greater use of this practice.

The importance of investment as a source of coercive economic leverage may increase as the Belt and Road Initiative expands China's global economic footprint. BRI will encompass roughly 70 countries[80] accounting for

over 60 percent of the world's population, 40 percent of global land area, and 32 percent of global GDP.[81]

BRI projects will give China further coercive economic leverage in several ways beyond simple political conditions attached to BRI project finance. Once a BRI project is under way, China may be able to defer loan disbursements or seek early repayment of loans as a coercive economic tool. Beijing's ability to do this will depend on the specific terms of BRI loans and on potential collateral impacts to China from using this leverage—e.g., withholding disbursement of a loan for a project being built by a Chinese infrastructure company could impose collateral economic costs on China. In general, the expanded global lending that China will engage in through the BRI will increase China's coercive economic leverage.

Additionally, China may gain economic leverage from operating BRI projects after their completion. For example, a Chinese company operating a BRI-built port might be able to modestly slow transit to send a coercive signal about China's control over a target country's trade flows. BRI may also provide the platform for Beijing to build a constricting set of international norms that may codify its leverage. China's proposed "BRI Courts" as the preferred dispute resolution mechanism for disputes with partner countries over BRI projects—as opposed to traditional international dispute resolution forums—suggest such a threat. The courts raise concerns that China will face few legal checks on the coercive use of BRI projects since disputes will be resolved in a parallel judicial system independent of the international arbitration system.

Finally, despite the suggestion by several commentators, including at least one Chinese general, China is unlikely to weaponize its holdings of U.S. debt as a potential coercive tool against the United States.[82] As discussed above, China carefully weighs collateral costs when deciding to implement coercive economic measures. China's sudden sale of its holdings of U.S. debts, estimated to be worth more than $1 trillion, would have significant collateral costs, including raising the value of the renminbi, devaluing the value of China's remaining U.S. holdings, and rattling investors. In addition, Chinese policymakers would expect the U.S. government to take steps to mitigate the impact of a Chinese fire sale of U.S. bond holdings, for example by directing the U.S. Federal Reserve bank to step in to purchase the bonds to stabilize the market.

Risks to China from Use of Coercive Economic Measures

In recent years, some commentators have argued that China's use of economic coercion is likely to be self-defeating. They argue that such activities undercut global perceptions of China and are likely to make China less popular in the very countries and regions where Beijing is seeking to expand its influence.[83] Commentators have also argued that countries can typically adapt to Chinese economic coercion and that while China may be able to impose short-term costs within the context of a specific diplomatic dispute, over the longer run China is likely to bear a significant cost from its use of economic coercion.[84]

There is some evidence that China's generally more assertive posture in East Asia has hurt its regional perception. For example, the percentage of Japanese citizens who had a favorable view of China fell from 26 percent in 2009, before the 2010 Sino-Japanese Senkaku/Diaoyu dispute, to a low of 5 percent in 2013.[85] Similarly, in South Korea the percentage of citizens reporting a favorable view of China fell from 61 percent in 2015, before the Sino-Korean dispute over THAAD, to 34 percent in 2017.[86]

These statistics indicate that, unsurprisingly, diplomatic disputes between China and its neighbors have hurt popular perceptions of China. However, publicly available survey data make it difficult to determine the role of China's coercive economic measures in affecting popular opinion of China isolated from the broader disputes that triggered Chinese economic coercion. In Japan, for example, favorable views toward China actually rose from 2010 to 2011, a period when attention was focused on China's rare earths export restrictions, before collapsing in 2012 and 2013. During this latter period, China does not appear to have engaged in new unilateral coercive economic measures. Instead, Beijing primarily responded to the renewed 2012 Senkaku/Diaoyu dispute through diplomatic pressure and the encouragement of popular anti-Japanese protests in China.

Even if the reputational costs are real, China appears increasingly unconcerned by them. To be sure, China continues to want to be seen as a responsible actor in both East Asia and around the world. In early 2018, China budgeted a 15 percent spending increase on diplomacy and "soft power."[87] Yet, China's increasingly assertive stands on issues from the South China Sea to its own domestic political repression clearly show that it is less

concerned about the negative diplomatic ramifications of economic coercion than it was some years ago.

In addition to potential reputational costs, China's use of coercive economic measures has also contributed to the plans of several countries to diversify their trade and business relationships to avoid perceived over-reliance on the Chinese market. Author interviews with officials in Taiwan, South Korea, and Japan, for example, indicated that concern about Chinese economic leverage is a factor in initiatives by all three to encourage trade and investment relationships with other countries.

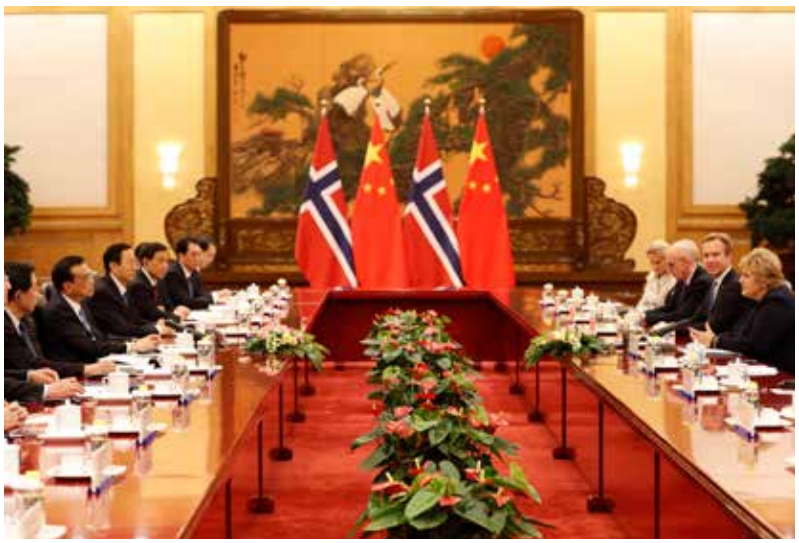
However, the reality of China's economic size and expected pace of economic growth makes it highly likely that China's importance as a market—the core economic leverage China has been able to use coercively—will likely expand over both the near and medium term. Consequently, absent significant policy interventions, China's ability to use coercive economic measures will likely increase, despite national efforts to reduce economic dependency on China.

CHAPTER 3

China's Successes and Failures and the Future of Chinese Coercive Economic Measures

KEY TAKEAWAYS

- China appears to have achieved several successes from its use of coercive economic measures. Even if the measures have had limited economic impact, they have served an important signaling function. China also appears to be learning across cases.
- The United States is virtually certain to face greater effects and constraints due to Chinese coercive economic measures in the future, even if the measures will remain primarily targeted against U.S. allies rather than directly against the United States or U.S. firms.



China has been successful in extracting apologies from the countries it targets. Norway's public apology to China led to the resumption of salmon exports to China and restored diplomatic relations, with Prime Minister Erna Solberg later visiting Beijing in 2017. (Pool/Getty Images)

Anecdotal and qualitative analysis suggests that China has experienced multiple successes from its exercise of unilateral coercive economic measures, including asserting territorial and sovereign interests to both domestic and foreign audiences. Cases of targeted economic measures demonstrate that China can successfully use this toolset to help shape foreign political and corporate outcomes in its favor and to insert a consideration of, or deference to, Beijing's priorities in the minds of countries engaged in (or indeed those considering) foreign policy disputes with China.

Evaluating Accomplishments and Failures

China has achieved particular success in extracting public statements of contrition or other public deference to China in exchange for easing or terminating coercive economic measures. Norway, Mongolia, the Philippines, and corporations such as Marriott have all, to varying degrees, publicly expressed contrition as part of a diplomatic process intended to obtain relief from Chinese economic coercion.

China also appears to be successfully using coercive economic measures, along with its suite of other economic inducements and security, legal, and diplomatic measures, to obtain more meaningful concessions. While South Korea refused to remove the THAAD missile defense system, the diplomatic commitments that South Korea appears to have offered in late 2017 signal deference to Beijing's interests and could constrain future U.S.-South Korean military cooperation if the United States recommended installing another THAAD missile system.

China's coercive economic measures have also proved effective when part of multilateral pressure campaigns. For example, China's embrace of multilateral measures against North Korea during 2017, including reductions in Chinese imports from North Korea and exports of fuel supplies to North Korea, likely reshaped Pyongyang's strategic outlook. They were among the factors motivating Pyongyang to seek negotiations with the United States in early 2018. Similarly, China's willingness to reduce its purchases of Iranian oil in 2012 and 2013 sent a powerful signal to Tehran that Iran could not count on Chinese support to resist the international pressure campaign. The decision likely contributed to Iran's willingness to agree to the Joint Comprehensive Plan of Action (JCPOA) in 2015.

Chinese accomplishment or success in the use of economic coercion has at least as much to do with shaping perceptions as exacting material, economic consequences. China has correctly perceived that it derives enormous power and indirect involvement in shaping decisionmaking among its neighbors and competitors when they believe that China will create economic consequences. That is, succeeding in creating the perception of China's economic dominance and its capacity to create economic consequences for entities that undermine China's interests is a very powerful source of Chinese leverage.

Tough rhetoric from China about its dominance—like then-Foreign Minister Yang Jiechi's 2010 statement

that "China is a big country and other countries are small countries, and that's just a fact"[88]—and the use of targeted coercion such as the cases examined in this paper appear to have shaped official and company-level decisions regarding engagement with China. South Korean and Taiwanese policymakers interviewed for this research project expressed resignation, or a sense of fatalism, about China's influence over bilateral and regional economic activity. So too did a number of Japanese researchers and observers, although Japanese government officials assess that they are unlikely to face effective Chinese coercive economic pressure in the near term or midterm.[89] Other researchers have observed a version of the same sentiment, noting that China's neighbors are paying close attention to the threat of Chinese economic coercion even if the macroeconomic impact of many of the cases has been relatively muted.[90]

China approaches economic coercion in the manner of a laboratory for experimentation and with urgency for delivering successful outcomes.

To be sure, it is difficult to measure China's own view of success in the use of coercive economic measures because Beijing has not publicly articulated criteria for such success. Moreover, China uses an array of tools of statecraft to advance its national interests, so it is difficult, and circumstance-specific, to isolate the success or failure of just the tool of coercive economics. Additionally, China's national interests are expanding along with the expansion of its economic and political power, and it is likely that China's own view of success is as dynamic as its political ambitions. Finally, some cases may be intentionally mislabeled as success by vested interests in China to reap nationalist support among domestic constituencies. For example, resumption of Chinese imports of Philippine bananas had more to do with the election of Duterte and his pro-Beijing, and anti-American, agenda than with Philippine capitulation in South China Sea politics. However, China benefits from a narrative of success over the trade interruption that demonstrates its influence in bringing an important neighbor into China's sphere of influence and boosting China's growing international prowess.

By contrast to these various success narratives around China's use of economic coercion in the cases covered by this report, there is no prominent narrative of China's failure. Some analysts, as well as findings from author interviews, suggest an overreach or course correction on the part of China, as in its measured and incremental resumption of some economic and diplomatic activity with South Korea in 2018 after the THAAD case. Even when China did not coerce policy change or had to face international consequences for its coercion, as in the Japan rare earths case, most analyses nevertheless view this as a constructive learning experience for China. That is, they ascribe to it a measure of success. This may suggest that perceptions of China's growing power, and belief—based on limited empirical evidence—in the potential for its successful use of economic coercion, are significant factors in evaluating China's success or failure.

The most important lesson from the challenge of evaluating China's success or failure in economic coercion may be that China approaches this statecraft in the manner of a laboratory for experimentation and with urgency for delivering successful outcomes. Formalization of coercive measures or articulation of the steps in a ladder of escalation, which could lead to a more rigorous evaluation of success and failure, does not appear to be China's focus of development in this area. Nor does China appear to be signaling that it has a specific aperture for target interests, aiming only at near-neighbors or certain economic sectors. In short, China is not tracking a recognizable model for economic deterrence policy or the development of formal principles to guide the evolution and assure success of its coercive economic statecraft. There is no doubt that China's execution of economic coercion will look different and perhaps incomplete by comparison to more conventional models and that it does not fit neatly into the strategies for evaluating (however imperfectly) economic coercion exercised by the United States and others.

Implications for the United States

China's use of economic coercion has important implications for the United States now and is likely to be even more significant over the next five to 10 years. Many analysts have pointed out how China's efforts to bully its neighbors with a show of force and expansionist territorial claims have the effect of degrading U.S. strength abroad and undermining U.S. national interests. This is also true in the economic realm when China delivers economic blows against foreign firms and governments. This directly undermines the economic strength of U.S. allies, as well as the norms of relatively free and unencumbered trade among countries.

Even if China generally refrains from targeting coercive economic measures directly at the United States, China can shape the actions of U.S. allies and individual international and U.S. corporations in ways that adversely impact U.S. interests. For example, Asian countries considering closer military relationships with Washington over the next several years are virtually certain to weigh China's coercive economic measures against South Korea after the THAAD deployment. These countries will have to assess whether they want to bear potential economic costs from China as a price of cooperating with the United States. Even when countries choose to pursue closer U.S. security relationships despite the potential costs (as many will), they will likely factor the possibility of Chinese economic coercion into decisions about the timing and nature of specific defense cooperation. These countries may even begin to expect assurances from the United States of compensation if they are targeted by Beijing, raising costs for Washington's security relationships.

Similarly, Chinese economic coercion might affect the decisionmaking process of individual companies. Already, corporations regularly make internal calculations about how strongly to oppose Beijing's economic policies out of concern over Chinese economic coercion. Companies may increasingly consider the potential for such coercive measures when deciding whether to align themselves, or not, with U.S. interests that run counter to Beijing's. For example, should Beijing decide to take

Having witnessed the costs borne by international corporations such as Daimler, the owner of this factory, U.S. corporations may increasingly weigh the potential for Chinese economic coercion when deciding whether to support U.S. foreign policy. (Thomas Niedermueller/Getty Images)

China has shown its ability to target politically salient constituencies abroad. In its response to U.S. tariffs, Beijing may target states that supported President Donald Trump in 2016, for example by imposing costs on soybean farms in South Dakota. (Scott Olson/Getty Images)

a harder line on Taiwan and discourage international investment on the island, many U.S. companies would likely quietly comply in order to maintain access to the Chinese market.

Given that Beijing is already showing signs of learning from and improving its use of coercive economic measures, over time it is likely to improve its ability to direct and coordinate coercive economic measures with other Chinese economic inducements, or security and diplomatic moves, to shape and influence the decisions of competitors. The South Korea case, where China attacked major corporate players, throttled tourism, and used regulatory maneuvers to weaken Korean exporters, is perhaps the best indication that China will deploy economic pressure on an array of foreign commercial interests, including those close to foreign political elites, and simultaneously limit diplomatic connectivity and escalate the trading of political barbs. China will also likely refine its leveraging of the local political situation to maximize its effect. Already in the South Korea case, China capitalized on the tumultuous domestic situation by making the most of the lame-duck period and impeachment proceedings against President Park Geun-hye and the transition period for President Moon Jae-in.

In the future, China will use its many economic advantages to improve its ability to narrow its targets to the company or institution level, and also apply economic pressure to broader economic sectors and foreign jurisdictions. Beijing will also likely be able to better target

politically salient constituencies abroad, including in the United States. This will no doubt occur around major political decision points, such as elections, or economic milestones, such as trade agreements or investment reviews. For example, in the trade dispute context, China responded to the U.S. administration's 2018 tariffs by targeting products from states that supported Trump in the presidential election.[91] Not only will this Chinese activity continue to influence U.S. corporate decisions, investment trends, and trading activity; there is little doubt it will also influence governance structures.

The United States has several specific economic leverage points that China does not look likely to appropriate or undermine over the next generation.

China's ability to use painful economic measures to advance its core political interests is not limitless and will of course vary depending on the trajectory of the Chinese economy. Should China's economy slow down significantly, Beijing would obviously have somewhat fewer economic levers to use to coerce foreign competitors and persuade its domestic population of its success on the international stage. Nevertheless, given the linkages between China's domestic politics and its use of coercive economic measures, there would be a risk that a weaker China would actually become more aggressive as a way of distracting its citizens from domestic economic problems. That is, an economically weaker China could become more interested and willing to use available coercive levers.

The United States has several specific economic leverage points that China does not look likely to appropriate or undermine over the next generation. This means that the United States will not be powerless, at least in a theoretical sense, to respond in kind to Chinese economic bullying or to create consequences. For example, the United States has escalation-dominance, or clear economic leverage, when it comes to secure and attractive financial markets and currency, and as an engine of creative and disruptive technology innovation. The U.S. dollar is the dominant global currency. Today, the dollar leads in share of global reserves (64 percent), global investment (59 percent of international loans), and global payments (42 percent of all international payments).[92] This dominance of the U.S. dollar means U.S. financial jurisdiction is enormous and its size and flexibility will not be easily reduced.

The U.S. role as regulator of the central global financial node will also give it leverage over China. In order to integrate Chinese companies into the global financial system, U.S. regulators have granted them leeway and exemptions in complying with accepted standards. For example, the Securities Exchange Commission (SEC) has lowered auditing transparency standards for Chinese companies listed on U.S. securities exchanges. U.S. efforts to increase transparency and the integrity of its financial system could also offer leverage over China to counter coercion.[93]

The United States will have to cultivate its advantages for them to continue to give Washington strength and leverage to act in the international arena, including as a check on China. These U.S. economic advantages also form the muscle of the United States' own economic coercive policy that it will likely seek to use against China in the future, from sanctions to limitations on trade and investment. Finally, it confers authority to the United States to form and defend international economic norms that can be used to counter some of China's illiberal economic aims.

Clearly, the United States needs a sophisticated apparatus to track, understand, and draw attention to China's economic coercion, along with its other threatening foreign influence-shaping activities. To date, tracking this activity has been far too limited in U.S. analytical and policy planning circles. It has been insufficiently coordinated within the U.S. government and alarmingly absent from highest-level diplomatic engagement between the United States and its allies.[94]

Beijing has many more decision points in the future on the kind of global economic actor it will be. It will inevitably struggle with the tension of whether to advance policies, and the public impression, of being a free and fair trader, or whether it seeks to shun and coerce its economic partners for what it sees as political misdeeds. Xi's actions support both views. On the one hand, he has presented himself as a staunch defender of globalization, as he did in his 2017 Davos speech when he said that "China will vigorously foster an external environment for opening-up for common development."[95] On the other hand, Xi has indicated that "[the Party] should make national security its top priority"; he has emphasized the importance of preserving Communist Party rule; and he has shifted away from an "economics-first" approach.[96] China is embarrassed by accusations of its economic meddling and is undercut internationally when its arbitrary rules and nontransparent financial practices

are laid bare. China wants to be respected and cultivate a strong positive reputation internationally.[97]

The United States has an opportunity to shape and influence Chinese policy by playing on negative public impressions of China's economic system and the ill effects of its use of economic coercion. But Washington is on its back foot when it comes to pushback.

Understanding China's economic coercion of the future is the first step toward a response strategy. To be sure, China is likely to take unconventional and unprecedented steps in its future uses of economic coercion. These developments will make a full and definitive reckoning with Chinese economic coercion more difficult. The past is most certainly not prologue. Yet, frustration and concern should not translate into blunt or punitive U.S. responses. Hampering China's economic activity without a clear strategy or set of desired policy outcomes would be needlessly antagonistic and unproductive. It would not serve U.S. interests to overplay its hand with China around political goals or inadvertently escalate the trading of economic barbs given the damage to U.S. economic interests involved in any strike at a trading partner in a multipolar global economy.

China's importance in addressing other U.S. policy priorities, such as its role as an intermediary in the North Korean nuclear negotiations, as seen in President Xi Jinping's bilateral meetings with Kim Jong Un pictured here, has diverted U.S. policymakers' focus from countering Beijing's economic coercion. (Chung Sung-Jun/Getty Images)

> **Understanding China's economic coercion of the future is the first step toward a response strategy.**

Setting aside these potential missteps, there are options. In fact, the most meaningful boundary in a strategy to limit China's use of economic coercion is one that the United States imposes on itself—that is, a limited capacity for a busy U.S. administration to elevate the focus and attention on Chinese economic (and other forms of) coercion and to develop an effective response. Finding time for busy U.S. policymakers, who for the last year have primarily seen China through the lens of North Korea and the looming U.S.-China trade war, will be a difficult challenge. But if the United States does not overcome these challenges it will miss the chance not just to blunt the effects of Chinese economic coercion, but to influence Beijing's ability to exercise it in the first place.

CHAPTER 4

Recommendations and Conclusion

KEY TAKEAWAYS

- The Trump administration, Congress, and outside experts should focus greater attention on China's use of coercive economic measures by increasing research on and awareness of China's activities, sharing information, and supporting awareness-raising campaigns.
- The Trump administration should also develop trade policy remedies and other tools to more concretely build resilience to Chinese coercive economic measures.
- Private-sector stakeholders should examine their vulnerabilities and take steps to increase their resilience to potential Chinese economic coercion.

U.S. policymakers should embrace several core principles for understanding Chinese economic coercion and framing policy responses to this activity. The immediate priority should be additional monitoring, public disclosure, and international coordination related to China's use of economic coercion. Conducting this work is a matter of core U.S. national interest and is the basis to balancing a global challenger intent on detracting from U.S. global influence and freedom of action. Administration and congressional leaders both have a role to play, as do private-sector executives. Collectively, their measures can reduce U.S. vulnerabilities and create vulnerabilities for China, limiting Beijing's scope for economic coercion. The measures can also serve to support resilience of the U.S. economy, and indeed the resilience of the liberal norms that the United States uses as models for global economic engagement.

There is no realistic way to halt and reverse China's expansive campaign to shape decisions of competitors and its use of economic coercion to do so. However, cultivating a broad understanding of this activity and deepening the costs for China of engaging in it can signal to Beijing and the rest of the world that China will not be allowed to proceed with economic coercion unchecked.

Recommendations for the Trump Administration

The first, most important step of understanding China's economic coercion is for the Trump administration to undertake a broad-scale mapping of examples and share such information with allies. To the greatest extent possible this should be a transparent activity. The United States and partners should endeavor to publicly disclose findings in a concerted public messaging campaign and not let China's erosion of liberal economic norms go unchallenged. Against the backdrop of this public information campaign the United States can begin to shape a concerted and coordinated policy response. Specific recommendations are:

1. **Task a high-level White House official with coordinating a response to Chinese economic coercion and include this topic in the U.S. National Security Council's (NSC's) ongoing China policy review.** The NSC has, over the last year, conducted extensive work on China, particularly in preparation for increased trade measures on China such as the "Section 301" action focused on Chinese intellectual property theft announced in early 2018. The NSC should assign a senior White House official, potentially the deputy national security advisor for international economics, the responsibility for developing a comprehensive strategy to address China's economic coercion and incorporating this response into the NSC's China policy process.

2. **Initiate and publish broad new U.S. government research projects.** The U.S. intelligence community should initiate a classified National Intelligence Estimate on China's use of economic statecraft to advance its core national interests, including use of coercive economic measures. This should track points of pressure China holds over neighboring countries, and over the United States, and specific vulnerabilities. The U.S. intelligence community should also initiate a long-term study of Chinese strategies for closing Chinese markets to U.S. firms, and via economic pressure on U.S. companies, how much political pressure such closures could have on U.S. decisionmakers.

   A prominent goal of the government-led research should be to build an analytical model of Chinese economic coercion. The administration can collaborate with independent groups and collect public data as part of this exercise. The U.S.-China Security and Economic Review Commission study on Chinese retaliation to THAAD offers a valuable example of such work. This effort should be ongoing and not merely focused on a study of Chinese bilateral

relationships. Instead, it should be part of a discrete body of work isolating the phenomenon of Chinese economic coercion in manifestations across the world.

To the greatest extent practical, the Trump administration should summarize its internal research into a published, annual, public report on China's economic statecraft, including coercive measures. This should be published around the U.S.-China Comprehensive Economic Dialogue to draw high-level attention to China's economic activity, including lack of transparency, economic inefficiency, and arbitrary health and safety and phytosanitary decisions, in this venerable forum.

3. **Develop a Chinese economic statecraft intelligence focus.** The intelligence community should expand its ongoing work on China to create a cross-agency group to study Chinese economic statecraft. A primary goal of this group should be operational analysis of economic coercion and scenario planning or war-gaming possible future instances of Chinese economic coercion significant to U.S. interests.

> **By deepening trade ties between the United States and countries vulnerable to Chinese economic coercion, the United States can offer an important alternative market.**

4. **Initiate an international information-sharing and coordination process.** The Trump administration should initiate a formal information-sharing and coordination mechanism with close security partners to gather data on Chinese use of economic coercion and predatory investment or commercial activity. This should include annual ministerial-level meetings, including joint press briefings, and contribute to a multilateral, coordinated process to review Chinese investments in critical economic and defense sectors abroad. Through these initiatives, the United States and allies will build a shared understanding of Chinese economic coercion and a "template" order of response usable by any country. The coordination mechanism should also explore creating an escalation ladder response to Chinese economic coercion to ensure faster response and greater consensus among partners during a crisis.

5. **Gather company-level data in the field.** U.S. embassies in East Asia should adopt similar methodologies for gathering data on localized instances of Chinese economic coercion and broader tools of this statecraft, including survey outreach at the small- and medium-enterprise firm level and specifically in the tourism industry. The embassies should publish survey comments and data on an array of bilateral commercial activity with China, as well as cases of economic coercion. The data could include: model contracts offered by Chinese partners (with a focus on national security exceptions) and instances of trade and business disruption caused by Chinese regulators or commercial operators.

6. **Explore trade policy remedies to Chinese economic coercion.** There are several ways the Trump administration could use trade policy to build resilience against Chinese economic coercion. By deepening trade ties between the United States and countries vulnerable to Chinese economic coercion, the United States can offer an important alternative market. Also, over time, the United States can use trade policy to encourage the development of global supply chains and other trading flows and relationships in ways that reduce Chinese economic leverage. Moreover, in certain cases WTO and other trade policy remedies can be used to challenge Chinese coercive economic measures, though the structure of many Chinese measures can make WTO challenges relatively difficult.

   With respect to bilateral and multilateral trade discussions, including with Asian countries and the European Union, the Trump administration should incorporate measures to build resilience against Chinese economic coercion.

7. **Incorporate strategies to counter economic coercion into regional policy and political engagements.** The NSC should ensure that resilience and countercoercion measures are part of broader U.S. regional and country strategies, particularly for countries bordering the South China Sea and other maritime areas significant to China's projection of sovereignty. The United States should also develop, and share with partners, a substitutability review process to evaluate how to adapt supply

chains in key sectors (contingent on the country) in the case of coercion.[98] To prevent these analyses from becoming obsolete, reviews should be updated at three-year intervals.

8. **Work with allies that are negotiating their own trade agreements with China.** The Office of the U.S. Trade Representative and the U.S. Treasury Department should offer to work closely with countries that are negotiating free-trade agreements with China to discuss strategy and external support, and to help them develop legal remedies within the trade agreements that targeted companies and governments could use to fight back against future Chinese economic coercion. For example, South Korea is planning to negotiate an investment and services chapter in its trade agreement with China this year, and South Korea may be able to press for provisions that would enable South Korean companies targeted in the future by Chinese coercive economic measures to challenge the application of those measures before a neutral arbitral panel.

9. **Embrace digitization technology as a strategy for securing and diversifying trade.** Lack of transparency in global trade data inhibits the full understanding of trade flows and increases the potential for China to use informal trade measures to coerce smaller trading partners, escape detection, and plausibly deny economic coercion. U.S. government officials, in particular in the U.S. Department of the Treasury, should work with East Asian allies who engage in significant trade with China, as well as the private sector active in the United States and East Asia, to establish a dialogue on digitizing trade technology, with special focus on e-records for custom documents and trade finance instruments. This dialogue should seek to bring security leaders and trade regulators on the same page about the use of this technology to understand supply chain and logistics facilitation, and to track contracts and transactions. This constituency should also seek to support broad adoption of such technologies for transparency and coordination around unfair or arbitrary Chinese trade activity. Better data collected through these processes may additionally bolster potential use of the WTO as a recourse mechanism.

10. **Encourage countries worldwide to lower regulatory requirements for inbound tourists.** The State Department economic section of embassies in countries in China's periphery should encourage host countries to proactively diversify the sources of their tourism by lowering visa requirements for short-term visits to the country or raising the "maximum days" cutoff for a visa exemption.

Close coordination and information sharing with regional partners, including major economic hubs like Singapore that could be the victim of coercion in the future, will be key to monitoring Chinese conduct going forward. President Donald Trump meets Prime Minister Lee Hsien Loong of Singapore. (Pool/Getty Images)

11. **Use the closing of SEC regulatory loopholes, currently exploited by Chinese companies, to counter coercion.** China has been wary of giving transparency into its auditing practices to U.S. regulators. Yet, U.S. regulators have allowed Chinese companies to list on U.S. securities exchanges even with this diminished oversight and transparency. The United States should use efforts to increase transparency in auditing these Chinese companies as leverage to counter coercion.[99] Specifically, the SEC should ensure that either Chinese companies fall in line and submit to the same auditing transparency standards as other countries or risk being barred from listing on U.S. securities exchanges. The administration should consider directing the SEC to require the limitation in scope of activities, or even full delisting, for U.S.-listed Chinese companies that do not comply with U.S. auditing rules.

12. **Launch a high-level public messaging campaign.** The U.S. treasury secretary should speak publicly about the phenomenon of Chinese economic coercion, including when U.S. firms or leaders appear to be forced into bending to Chinese

objectives. The treasury secretary should signal to U.S. firms and the Chinese government that the United States will not look away if and when China seeks to coerce these firms into specific statements or business decisions.

Recommendations for Congress

Congress should also play an important role in bringing attention to Chinese economic coercion and developing a U.S. policy response. Specifically, Congress should:

1. **Use hearings and other mechanisms to draw attention to Chinese economic coercion.** Congress should hold hearings to give a platform to independent experts and the U.S. administration to discuss the implications of Chinese economic coercion to the United States and draw attention to the issue and to encourage executive-branch action to address the threat. These hearings should be educational and cultivate U.S. policy focus on a high-level security concern. Congress may seek to pursue legislation in the future to bolster or complement administration efforts to promote U.S. economic resiliency, including U.S. technology and financial services innovation. Additionally, Congress should order its Congressional Research Service to publish a survey of Chinese economic coercion, which should be made publicly available.

2. **Encourage robust U.S. involvement in responding to cases of Chinese economic coercion.** The United States has taken a relatively muted response to several of the recent instances of Chinese economic coercion, including the South Korea, Taiwan, and Mongolia cases. A more forceful U.S. diplomatic response might have helped deter some of the Chinese actions and, at the very least, would have increased the cost to China of its economic coercion. Congress should press the Trump administration to respond more aggressively to instances of Chinese economic coercion, including through more concerted collaboration with allied countries to formulate joint messaging or trade remedy measures.

3. **Explore the creation of and appropriation for a U.S. fund to compensate allies and companies for costs imposed by Chinese coercion.** Congress should study how to appropriate funds for a vehicle to compensate countries and companies affected by Chinese coercion. In particular, it should explore how to create parameters to ensure the quick and flexible disbursement of funds to companies such as Lotte Group in South Korea that find themselves targeted by Beijing. Building on efforts to create a unified understanding of Chinese economic coercion with allies, Congress should also explore how to pool these funds with international partners and should use cooperation among the so-called Quad countries—the United States, Australia, Japan, and India—as an initial pooling step. Congress should study the example of the International Energy Agency, created to respond to efforts to use crude oil exports for coercive purposes, and should consider using proceeds from tariffs imposed on China or from other trade remedies as sources of funding for the proposed mechanism.

4. **Foster U.S. leadership in critical U.S. economic sectors.** U.S. leadership in transformation technologies will insulate the country from Chinese economic coercion by making the United States a key participant in international cross-border supply chains and therefore difficult for China to target with coercion. Congress should engage in targeted regulatory reform to stimulate U.S. primacy in key economic sectors. Congress should hear testimony and request strategy documents from U.S. regulatory bodies to consider tax holidays, or streamlined regulatory processes, for critical technology and financial services startup companies to stimulate their development and continued presence in the United States. Officials should focus near-term emphasis on supporting semiconductor, vehicle and industrial battery storage technology, and blockchain-based financial technology developments, among others. Investing in these sectors, where China is seeking to develop globally dominant "national champion" companies, will help reduce future Chinese coercive economic leverage.

   Furthermore, Congress should appropriate and authorize funds for a block grant program to provide startup capital for new businesses, or existing businesses seeking to significantly restructure, with innovative ideas in the technology, financial services, logistics, or other strategic economic sectors. This should specifically seek to support digitization technologies in the shipping, logistics, trading, contracting, and financial services sectors, including using blockchain technology.

5. **Explore ways to strengthen U.S. anti-boycott statutes.** The United States first enacted an anti-boycott statute in the 1970s to deter U.S. companies from participating in the Arab embargo against Israel, and under current regulations administered by the Commerce Department and the Treasury Department, U.S. companies can face penalties if they comply with certain foreign-sponsored boycotts. However, these regulations have not been modernized in many years, and compliance with the regulations typically continues to focus heavily on issues related to possible boycotts of Israel.[100] Congress and the administration should explore ways to strengthen and modernize U.S. anti-boycott laws to ensure that U.S. companies can cite U.S. law as a basis for refusing to comply with Chinese coercive economic measures against third countries, such as Taiwan and South Korea.

Recommendations for the Private Sector and Nongovernmental Organizations (NGOs)

Private companies and NGOs have a role to play in building resiliency in supply chains and markets and in supporting additional research and awareness on this topic. Specific recommendations for the private sector and NGOs are:

1. **Private multinational companies should ensure that they are not overly reliant on Chinese suppliers or on the Chinese market.** U.S. and international companies should understand the risks they face from Chinese economic coercion and should work to ensure that they have resilient supply chains and markets if targeted by Chinese economic coercion. Trade associations and chambers of commerce can take a leadership role on this, and companies should work closely with U.S. government officials to discuss and catalog specific vulnerable goods and services. Private-sector leaders should take an active role in educating U.S. government leaders about their experience with perceived Chinese economic coercion and ideas for coordination with the government on resiliency measures.

2. **Support additional research.** Addressing Chinese economic coercion will be a long-term, labor-intensive undertaking. Foundations and NGOs in the United States should complement governmental efforts to analyze Chinese economic coercion by supporting additional outside research into Chinese coercive economic statecraft. NGOs, specifically including think tanks and academic institutions, may be particularly well-placed to evaluate Chinese public opinion about the use of Chinese economic coercion.

Conclusion

The next chapter of Chinese economic coercion will be highly dynamic and present fresh challenges and implications for the United States that surely are difficult to conceive of at this point. China's points of leverage and the core national interests it will serve to advance with use of these tools will rapidly expand.

Though this paper is dedicated to the analysis of China's use of a subset of coercive economic tools, it is premised by the assumption that China seeks to intersperse them with economic inducements and additional, noneconomic measures. This most discrete set of punitive economic instruments is now, and in the future will be, only one subset of China's economic shaping activities. They may be some of the most headline-grabbing policy measures, but scholars of the array of Chinese economic inducements may observe that they are not the majority of China's tools in the economic statecraft arena, nor ultimately the most pervasive and powerful.

> **China seeks to intersperse coercive economic measures with economic inducements and additional, non-economic measures.**

In responding to China's economic shaping activities, including economic coercion, to influence its foreign competitors, the United States will be best served by focusing on rigorous, constant monitoring and evaluation and regular public disclosure of examples. Close international coordination and information sharing are important parts of this monitoring. It may also place some limits on what is now a relatively permissive environment for China to exercise economic coercion, thereby discouraging China from proceeding with more such measures.

The collectors and analysts considering this data have their work cut out for them, pursuing an array of issues discussed throughout this report. They may consider questions about the future of China's economic coercion, including: Is there an economic inflection point, such as loss of comparative advantage in a high-tech sector, after which China's neighbors or others will lose resiliency against Chinese economic coercion? Will a potentially

weaker China of the future be more or less likely to use economic coercion and more aggressive actions toward even bigger targets, such the biggest global companies and U.S. government entities? How significant will China's private sector be as a lobbyist against Beijing's use of economic coercion toward foreign firms, which may serve to undercut the commercial options for Chinese firms abroad? Will China create a version of its social credit system to rate U.S. companies and businesses on their friendliness to China, as an economic coercion strategy? Will fears of losing access to the Chinese market encourage U.S. companies to mount a strong lobbying campaign against U.S. attempts to counter Chinese economic coercion?

It will be fundamentally inadequate for the United States to merely track China's coercion, including economic coercion, and publicize it as a strategy for deterrence.

Policymakers will also have to consider questions about potential medium- and long-term responses to China, including: How many costs can the U.S. government's campaign against economic coercion impose on U.S. companies before they reduce their investment in the United States? What role can trade agreements play in responding to Beijing's economic coercion? Can international organization such as the WTO be a useful tool in responding to coercion? What mitigation policies can the United States embrace to limit the threat of China's measures?

The full development of a strategy to counter Chinese foreign policy shaping and coercion, including its economic coercion mechanisms, is beyond the scope of this paper. It surely involves U.S. economic measures, as well as legal, security, diplomatic, and technology measures, and must be a highest-level, whole-of-government enterprise. It must furthermore be oriented not just toward China's foreign targets but also its domestic constituency, which is also subject to Chinese economic coercion and whose support is necessary to the execution of Chinese foreign policy coercion. Moreover, a strategy should seek to use the leverage the United States holds with respect to China in the direct diplomatic process the United States is launching with North Korea.

It will be fundamentally inadequate for the United States to merely track China's coercion, including economic coercion, and publicize it as a strategy for deterrence. Development of a holistic U.S. policy response will be an important task of the near term and is urgently needed. Independent scholars and strategic planners within government all have a role to play and to address one of the most prominent and significant security and economic issues of the present great-power competition.

ANNEX

Case Studies of Recent Instances of Chinese Economic Coercion over the Last Decade

Japanese Maritime Dispute, 2010–2012

The tension between Japan and China flared up in September 2010 after a Chinese trawler collided with a Japanese coast guard patrol boat in the disputed Senkaku/Diaoyu island chain. In response, Japan detained the skipper of the ship over Chinese protests. At the time of the incident, China had already cut rare earths export quotas by 72 percent for the second half of 2010, citing environmental concerns.[101] After the detention, Beijing began to halt rare earths exports to Japan at the port, and Japanese companies complained about lack of access to this resource. At the time, China controlled 97 percent of the world's basic rare earth oxide production and a significant portion of the processing capability.[102]

Japan reacted swiftly to the supply cut, acting both unilaterally and in coordination with global partners. The government approved a $1 billion budget to adapt to the reduced Chinese export quota. The funds supported measures to reduce rare earths usage, develop new supply globally, and find replacement materials. Japanese officials estimate they achieved a 50 percent reduction in rare earths usage in the first six months of their response.

Crucially, Japanese officials argue that the appropriated funds, combined with frequent interface with affected companies, created a united front between the Japanese public and private sectors. This collaboration ensured buy-in from companies that were initially skeptical of the multilateral—and confrontational—response to Beijing. Throughout the crisis, Japan worked closely with the U.S. Department of Defense, the U.S. Department of Energy, and the U.S. trade representative, as well as with trade policymakers from the European Union (EU). Together, they developed initiatives to diversify supply and seek legal recourse against China. The most notable of the efforts to confront China was the cooperation among Japan, the United States, and the EU that resulted in a case against Chinese quotas at the World Trade Organization (WTO), which the challengers won in 2014.

> **Japan reacted swiftly to the supply cut, acting both unilaterally and in coordination with global partners.**

The swift Japanese response combined with international cooperation appears to have deterred China somewhat from repeating the same extensive coercion attempts against Japan. In July 2012, the Senkaku/Diaoyu issue flared up again when Japanese Prime Minister Yoshihiko Noda announced the government's plans to buy the disputed islands from a private owner. Although the move would not necessarily have resulted in their change in ownership under international law, China warned Japan that it would treat the transaction as a change in the status quo. In response to the 2012 flare-up, China spurred popular boycotts that caused targeted Japanese companies such as Panasonic to suffer about $120 million in property damage and Japanese carmakers including Toyota to experience a 40 percent to 50 percent decline in sales.[103] Though Beijing may well have encouraged, or at the very least acquiesced to, the anti-Japanese demonstrations, it was a more oblique response compared with 2010. The 2012 response appeared to be an indication of China's return to its traditional tactic of boycotts rather than its new coercive approach. In fact, the 2012 events were more similar to the 2005 protest when, angered by Tokyo's attempts to become a permanent member of the U.N. Security Council, Chinese protesters took to the streets and called for boycotts against Japanese goods.[104]

Norwegian Nobel Prize Dispute, 2010–2016

In 2010, China retaliated against Norway for awarding the Nobel Peace Prize to dissident Liu Xiaobo. There was a precedent for Beijing's action. In 1989, China threatened Norway for giving the prize to the Dalai Lama. After the 2010 Nobel announcement, Chinese officials called the award an infringement on China's "legal sovereignty."[105] China then embarked on a series of punitive measures against the Scandinavian country, including suspending diplomatic relations and free-trade agreement negotiations. China leveraged both regional and national regulatory entities to hit the Norwegian salmon industry. The Beijing Capital Airport Entry-Exit Inspection and Quarantine Bureau issued a notice calling for better inspections of Norwegian salmon.[106] Then, China's Central Office of Quality Supervision, Inspection, and Quarantine issued a notice on better inspections more generally. Though the latter circular did not specifically target Norway, Chinese importers have suggested that was the aim.[107] A survey found that officials checked all Norwegian imports compared with sporadic checks on other importers, leading to import lags of up to 20 days. Stakeholders polled in the same survey also believed that China approved lower import volumes from Norway, leading to regulatory hurdles for importers who wanted to increase their share.[108]

As in the Japan rare earths case, the formal nature of the Chinese directives opened an avenue for recourse.

Norway twice asked for clarification on the central government directive at the WTO in 2011 and 2013 (without result).[109]

The drop-off in China's Norwegian salmon imports was drastic. In 2010, Norway accounted for 94 percent of China's salmon imports. That fell to 37 percent in 2011. After a brief 2012 uptick, Norway was on average the source of just 16 percent of China's aggregate imported salmon between 2013 and 2016.[110] Notwithstanding the tension, Chinese pressure was uneven. China did not close all avenues for salmon imports. A study has pointed to the possibility that Norway simply rerouted its exports to China through Vietnam.[111] Moreover, while China targeted the salmon sector directly, overall trade between the two countries improved during the coercion campaign.[112]

The economic coercion, coupled with the extended diplomatic cutoff, eventually resulted in a rapprochement between Oslo and Beijing. However, Norway could not undo a prize already conferred, so the Chinese campaign does not appear to have been directed at a discrete change of policy. Instead, the retaliation was primarily punitive—imposing economic costs on specific sectors and creating obstacles to diplomatic engagement to deter Norway and ensure public repentance. Initially, China also requested a secret "nonpaper" with a more strongly worded apology, but then-Prime Minister Jens Stoltenberg denied the request as at odds with Norwegian foreign policy.[113]

In its rapprochement with Norway, China achieved both its deterrent and public apology objectives. In 2014, Norwegian officials declined to meet the Dalai Lama.[114] When the two countries normalized relations in 2016, China obtained a formal, public apology. Norway acknowledged China's "sovereignty" and "core interests," while Beijing hoped that Oslo had "deeply reflected" on how it had harmed mutual trust.[115] The salmon trade resumed. Upon Liu's death in July 2017, Norway's more muted statement compared to its European neighbors', could be viewed as a sign of the continuing deterrent value of the Chinese policy A few weeks later, the countries revealed progress in their free-trade agreement negotiations.[116] By December 2017, weekly salmon exports to China had jumped 262 percent year over year.[117]

Philippines Maritime Dispute, 2012–2016

Beijing used economic coercion against the Philippines over the disputed Scarborough Shoal in the South China Sea between 2012 and 2016. Beijing claims the disputed shoal as historically part of its domain and has employed many tools to assert its claim. China used economic coercion by applying additional sanitary controls on Filipino agricultural exports, throttling the trade between the two countries. It also used harder security measures such as sending Chinese vessels to protect Chinese fishermen and blocking access to Filipino fishing boats.[118] China eventually ended its campaign when it found a more cooperative Filipino leader in President Rodrigo Duterte.

China began applying increased controls over Filipino bananas out of alleged sanitary concerns in late March 2012. This move predated the April 2012 flare-up in the dispute caused by a naval standoff between the two countries. After the April confrontation, the Chinese quarantine authority issued a circular on inspecting Filipino shipments. At the time, China accounted for 14 percent of the Philippines' exports, making it its third-largest market[119] and one of its largest banana buyers.[120] As with Norwegian salmon, China subjected the Filipino banana imports to tougher sanitary screening requirements. It also refused to accept certifications from quarantine authorities in Manila, often resulting in bananas rotting in port. Estimates of the action's impact on Filipino banana exports to China offer a range a range of estimates of the consequences, from a drop of around 30 percent in exports to even a small increase in profits.[121] China also imposed additional controls on other Filipino agricultural exports.[122]

The initial experience with economic coercion in 2012 did not convince Manila to abandon its South China Sea claims. Instead, the Philippines continued pressing

Chinese tourism to the Philippines declined dramatically after the flaring up of tensions over the disputed Scarborough Shoal. Pictured above, Filipino exhibitors promote the destination at the Beijing International Tourism Expo. (China Photos/Getty Images)

its claims before an international tribunal under the U.N. Convention on the Law of the Sea. In response, Beijing returned to coercion. In the lead-up to the ruling, Filipino banana exports to China fell in 2015 and further in 2016.[123] In addition to the banana restrictions, the Philippines has also experienced the swings in Chinese tourism—particularly package tourism—that affected other Asian targets of coercion. In 2012, the China National Tourism Administration suspended air travel to the Philippines.[124] The pattern repeated itself after the Permanent Court of Arbitration ruled in favor of the Philippines' claim in the South China Sea in 2016. In the month after the decision, arrivals from China fell by 20 percent, month over month, as a result of Chinese tour group cancellations.[125]

It took the election of Duterte and his turn away from Washington and toward Beijing to end China's economic coercion campaign. After Chinese President Xi Jinping and Duterte met in late 2016 and the Filipino president announced a "separation" from the United States, banana exports increased by 30 percent in 2017. Tourism also soared, increasing by 43 percent in 2017.[126] Concurrently with the announcement, China offered other carrots, including major trade and investment deals.

It took the election of Duterte and his turn away from Washington and toward Beijing to end China's economic coercion campaign.

Iran's Nuclear Weapons Program, 2006–2016

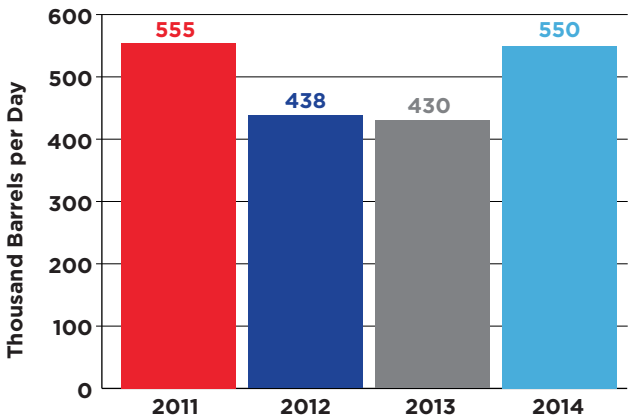
Beijing supported multiple U.N. Security Council resolutions against Iran after 2006, in contrast to its opposition in the U.N. to other sanctions programs, including its vetoes on sanctions against Myanmar, Zimbabwe, and Syria. At the same time, even after passing such measures, China distanced itself from the international effort. During the first three rounds of sanctions in 2006, 2008, and 2010, China increased its economic ties with the country.[127] Throughout the span of the sanctions regime, Chinese officials emphasized the need for diplomacy while pushing back against the imposition of new measures.

China adopted a similar approach toward U.S. unilateral sanctions—even while it criticized the long reach of the United States, it roughly complied with the sanctions' limitations. After one round, Beijing criticized the measures, saying that the United States was "putting [its] domestic laws above international law."[128] Facing this skeptical approach to U.S. measures, U.S. policymakers sanctioned Chinese entities that continued to engage in ties with Iran. For example, in 2012 the U.S. Treasury Department imposed sanctions under the Comprehensive Iran Sanctions, Accountability, and Divestment Act of 2010 on China's Bank of Kunlun. The bank faced the penalties for providing significant financial services to Iranian banks designated for their connection with Tehran's weapons of mass destruction program and its financing of terrorism.[129]

In some instances, China did respond to U.S. pressure and reduced its oil trade with Iran pursuant to U.S. unilateral sanctions. During the peak of U.S. sanctions on Iran's energy sector after the passage the 2012 National Defense Authorization Act, China reduced its energy imports from the country. In 2012 and 2013, Chinese oil imports from Iran were more than 20 percent lower than in 2011. They rose again after progress in the international negotiations with Tehran.[130] During the same period, China also reduced its investment in Iran's energy sector. Major Chinese state-owned enterprises (SOEs), including CNPC, Sinopec, and CNOOC, responded to the U.S. pressure by either delaying or completely pulling their projects in Iran receiving protests from Tehran.[131]

Chinese Crude Oil Imports from Iran[132]

China also used informal coercive measures when cooperating in multilateral pressure campaigns. In 2012 and 2013, it cut its crude oil imports from Iran in response to U.S. sanctions pressure, though it never publicly joined international oil sanctions.



(EIA)

Taiwan's Elections, 2016

The Taiwanese experience with Chinese economic coercion is unique. The expansive connection between

the two economies gives China significant leverage. Two-thirds of Taiwan's economic output is made up of exports, and China and Hong Kong account for a 40 percent share.[133] Notably, China backs up its economic posture against Taiwan independence with a military threat. In 2005 Beijing passed the Anti-Secession Law, stating China would use "nonpeaceful" means to prevent Taiwanese separation from the mainland.

China employed economic coercion against Taiwan after the election in May 2016 of Tsai Ing-wen and the Democratic Progressive Party, which both embrace a pro-independence stance. The month after the election, China suspended tour groups to the island. In 2017, tourism from mainland China declined 22 percent compared with 2016.[134] Taiwan responded to this decline by diversifying its visitors. Taipei expanded tourism promotion activities across Asia countries, advertised its openness to Muslim tourists, and lowered visa requirements for countries such as Brunei and Thailand.[135] After these initiatives, the number of tourists from Southeast Asia increased by 30 percent in 2017, though compared with Chinese tourists they spent less money.[136] This diversification fits into Taipei's broader initiative to expand its markets to reduce Chinese economic leverage, its New Southbound Policy.

The expansive connection between the two economies gives China significant leverage.

Chinese use of economic statecraft to meddle with Taiwanese politics is not new. After the 2000 election, Acer electronic products were removed from shelves and its chairman, who had supported the pro-independence candidate, had to make trips to Beijing to mend the relationship.[137] Ahead of the 2012 elections, a Chinese company signed large agreements with Taiwanese milkfish farmers, a constituency based in a traditionally pro-independence region of the island. This effort to sway stakeholders did not work, and after the fact, Beijing sent government experts to interview milkfish farmers and refine its policies in the future.[138] One commentator suggested that China's heavy-handed approach on the milkfish purchase offended Taiwanese sensibilities and backfired.[139] Reports also offer evidence that China may have pressured Taiwanese universities to issue pro-Beijing statements to continue enrolling large numbers of tuition-paying students from the Chinese mainland.[140]

China has a track record of trying to influence Taiwanese elections, for example by signing purchasing agreements with fishermen in traditionally pro-independence regions. Pictured above, Taiwanese fishing crews prepare to set sail. (Billy H.C. Kwok/Getty Images)

Beijing recently reversed course on some of its economic coercion. In 2018, it announced a series of unilateral inducements aimed at entrenching the island's economic dependence on the mainland. China continued its granting of economic concessions to politically influential Taiwanese constituencies. For example, it granted openings to Taiwanese media companies to expand into the large Mandarin-speaking mainland market, incentivizing them to self-censor any pro-independence positions in order to maintain access. The announcement of the inducements bypassed Tsai, continuing the confrontational stance even as Beijing switched from sticks to carrots.[141]

In addition to targeting Taiwan itself, China has employed economic coercion against anyone who recognizes the island. Beijing has targeted countries that recognize Taiwan and, more recently, has begun to target companies that list Taiwan as a separate entity. In a recent spate of coercive measures, the Chinese Cyberspace Administration ordered the Marriott International website and booking applications to close for a week.[142] Finally, China has used coercion to discourage arms sales to Taiwan. France abandoned the practice after its 1992 sales to Taipei resulted in French companies being barred from bidding on mainland projects.[143] Thus far, Chinese threats of economic retaliation against U.S. arms sales have resulted in cutting off of certain diplomatic relations and in threats—but no follow-up—to sanction the U.S. companies involved.[144] The 2018 planned sale may represent a change of this pattern.

South Korea THAAD Deployment, 2016–2017

China's application of economic pressure against South Korea in 2016 and 2017 is the most large-scale coercion effort against a significant economic power—and a U.S. ally. China had previously used economic coercion against South Korea for economic ends. In 2000, a year before China's entry into the WTO, Beijing responded to Seoul's tariffs on Chinese garlic by barring imports of Korean cellphones and polyethylene. Again in 2005, China suspended imports of Korean kimchi after Seoul halted imports from China of the same product because of health concerns.

China's application of economic pressure against South Korea in 2016 and 2017 is the most large-scale coercion effort against a significant economic power—and a U.S. ally.

The crisis between the two countries exploded over the deployment in South Korea of the Terminal High-Altitude Area Defense (THAAD), an anti-missile battery aiming to protect Seoul against North Korea's missile threat. The Chinese retaliation over THAAD came after a period of positive South Korea-China relations. Yet, in July 2016, President Park Geun-hye announced, to Chinese surprise, the decision to deploy THAAD, and delivery of the components began in early 2017. Since before the official announcement, Beijing—and Xi in particular—had expressed concerns over THAAD and its alleged threat to China's deterrent capabilities and overall regional military posture.[145] On the day of the announcement, the Chinese government complained officially and summoned the Korean ambassador.[146] Korean officials have argued that Xi's People's Liberation Army advisors' hard position against the system strongly shaped his own opposition and the ensuing campaign of coercion.

Chinese coercion against South Korea followed myriad avenues, focusing primarily on sectors where it could impose costs on Korean businesses without collateral damage on the Chinese population. First, as in other cases, China curbed tourism to the country. The effect was drastic. While overall tourism declined by 48 percent in 2017, group tours declined from 130,000 visitors per month in January and February 2017 to fewer than 3,000 per month on average for the rest of the year, pointing to the Chinese government's ability to influence group packages in particular.[147] China also targeted other popular Korean exports, including K-pop and cosmetics. Second, China hit individual companies, particularly Lotte Group, the conglomerate that had provided the government with the site for the installation of the THAAD system. Eighty-seven of the 109 Lotte Mart department stores in China were forced to close on safety grounds such as alleged fire-code violations.[148] The rest of the stores faced very poor sales.[149] Continued Chinese pressure has even hampered Lotte's attempt to sell its stores to exit the Chinese market.[150] Third, China supported popular boycotts of Korean exporters such as Kia and Hyundai.[151] Finally, China used other forms of regulatory harassment, including filing trade-related complaints against Korean companies, even after it had verbally agreed on settling them. In another regulatory move against Seoul, China stopped subsidizing Chinese producers of electric vehicles that used South Korean batteries.[152] In total, China took 43 retaliatory measures against Korea, not just in the economic arena but in the diplomatic and political arenas as well.[153] In its overall assessment of the damage caused by the coercion campaign, the Bank of Korea estimated Beijing's actions shaved 0.4 percentage points off of South Korea's 2017 growth.[154]

Though China hit certain sectors of the Korean economy, the campaign did not carry over to the entire economic relationship between the two countries. Overall trade between them grew by 14 percent in 2017.[155] Additionally, Beijing made sure not to target Korean sectors where economic retaliation might harm China's own supply chain. For example, Beijing did not target the Korean semiconductor sector, likely motivated by the fact that China still imports 65 percent of its semiconductors and could not afford to harm its own companies as part of its retaliation campaign.[156]

The Korean response to the Chinese campaign was tepid. Korean officials and experts have noted that the need for Chinese cooperation in solving the North Korean nuclear issue limited Seoul's room for maneuver.[157] Moreover, divisions among Korean policymakers hampered the response, with the defense policy community more willing to take active measures against Chinese coercion than the more cautious economic policy community. While South Korea contemplated filing a major WTO motion against China (as occurred in the Japanese rare earths case), it ultimately abandoned the idea. After raising concerns with the WTO, Korea did not follow up with a formal complaint, citing insufficient evidence.[158] Observers have also cited concerns from companies over how an overly aggressive reaction might alienate China

as a cause for the weak WTO response. Making a South Korean response more difficult was the lack of communication between counterpart agencies in South Korea and China. South Korean officials have complained about lack of responsiveness from Chinese officials to their appeals for economic relief. Finally, domestic considerations, including the impeachment of Park and the transition of power to President Moon Jae-in, stifled a strong response. Similarly, the United States, while raising the issue with China at a working level, did not engage in a high-profile response, in part because political leaders were occupied with the U.S. political transition after the 2016 election.

South Korea eventually relented to Chinese pressure in October 2017 by issuing a list of assurances, the "three no's," on further missile deployment and military alliance with the United States. Korea officials argued that these assurances were a reiteration of long-standing policy, suggesting the advantages China can gain from informal measures that give it flexible off-ramps from economic pressure rather than tying it to specific—and falsifiable—results.[159] Additionally, though China did welcome the development, it still urged Korea to "follow through" on its statement and did not lift the pressure as quickly as it has in other cases of coercion. As of February 2018, more than four months after the rapprochement, tourism was still 42 percent lower than the previous year and Lotte still had not received relief from the regulatory pressure.[160]

Mongolia Dalai Lama Visit, 2016

China has a long-standing track record of targeting countries with hostile diplomacy and economic coercion if they host the Dalai Lama. Since the 1990s, China has limited trade with countries, including France, Germany, Chile, Italy, and Brazil, after their officials met with the Tibetan leader. During the Hu Jintao era, meetings between a head of state or head of government and the Dalai Lama led, on average, to a reduction of exports to China of between 8.1 percent and 16.9 percent.[161] Trade subsequently recovered during the second year after the visit.

The 2016 economic coercion against Mongolia follows this template. The experience also shows the strength of coercion. Mongolia has historical and cultural ties with the religious leader, unlike France and Italy. Indeed, in the past Mongolia had ignored Chinese condemnation for Dalai Lama visits. But in 2016, 84 percent of Mongolia exports went to China, making it the most China-dependent country in the world.[162]

The Dalai Lama visited Mongolia in November 2016, addressing the public and holding public events. Even though the visit did not include public government meetings, China retaliated. Shortly thereafter, Beijing raised fees on mining products and created backups at a key border crossing.[163] China also suspended bilateral interactions, including talks over major infrastructure investment as well as a $4.2 billion loan.[164] Some observers have pointed to Chinese domestic motivations for the border backups and fees.[165] Indeed, the Chinese government never explicitly linked the actions. When asked whether the fees were connected to the Dalai Lama visit, a Chinese Foreign Ministry spokesman did not confirm or deny the linkage but criticized the Tibetan leader's trip.[166] Yet, whether or not Chinese concerns over the Dalai Lama were the sole motivation for the additional border fees, the Mongolian government reacted to these measures as if they were politically motivated. The Chinese cutoff in assistance exacerbated the coercive effect on Ulaanbaatar. At the time of the suspension, Mongolia was facing a worsening fiscal situation and a declining global commodity environment. In early 2017, the International Monetary Fund bailed out Ulaanbaatar with $5.5 billion.

China has a long-standing track record of targeting countries with hostile diplomacy and economic coercion if they host the Dalai Lama.

After initially standing up to Chinese coercive measures, Mongolian leaders eventually relented. As part of the rapprochement between Ulaanbaatar and Beijing, Mongolian leaders, like Norway, offered a public apology. They expressed regret for the invitation and emphasized that they would no longer host the Dalai Lama during the government's term. Chinese leaders said they hoped that Mongolia had taken the lesson of not interfering in China's "core interests" to heart.[167] Though China succeeded in altering Mongolia's policy and extracting an apology, the true results of its coercive action are unclear. Coming after the Dalai Lama's visit, the concession was primarily symbolic. Indeed, after taking office in 2017, the subsequent president expressed interest in reasserting Mongolian independence to invite the Dalai Lama.[168]

North Korean Nuclear Program, 2006–Present

Since 2006, China has chosen to use—and refrain from using—economic coercion against North Korea. One scholar has characterized this as "latent" leverage. China has the power to coerce but can choose not to fully use it to shape both Pyongyang's and Washington's foreign policies.[169] China's alternation between increasing and decreasing coercion on North Korea suggests this latent approach.

China is by far North Korea's largest trading partner. Between 2000 and 2015, trade between the two countries grew tenfold, though it fell after the imposition of tougher sanctions in 2016 and 2017.[170] Throughout, China accounted for 90 percent of North Korea's trade.[171] In addition to its overall trading relationship, China supplies key commodities to Pyongyang and has criticized U.S. attempts to deprive the country of access to oil, coal, machine parts, and other goods. In its support for Pyongyang at key moments, China has shown an unwillingness to fully rely on coercive measures to prevent North Korean acquisition and refinement of missile and nuclear technology.

> **Since 2006, China has chosen to use — and refrain from using — economic coercion against North Korea.**

However, China has deployed limited coercive economic measures against North Korea when Pyongyang's actions have drawn threats of a forceful international response. China has relied both on informal coercion akin to its other unilateral measures as well as the formalized U.N. multilateral coercion. After Pyongyang's 2006 missile and nuclear tests, China supported U.N. Security Council Resolution (UNSCR) 1718, placing various sanctions on the country. At the same time, Beijing also allegedly shut off oil exports to the country as a means of pressure.[172]

Even while preserving the option of unilateral coercion against North Korea—such as targeting the country's oil again—Beijing has continued engaging in multilateral sanctions against Pyongyang. China supported two U.N. resolutions imposing sanctions on North Korea in 2016 and four in 2017. Though it backed these multilateral sanctions, Beijing also lobbied against specific measures—for example, watering down a provision in September 2017 that would have imposed an oil embargo.[173] In its participation in these internationally coordinated sanctions programs, China also relied far more on public circulars and policies rather than the informal measures. After UNSCR 2231 (2016), the Ministry of Commerce issued a statement urging its companies to comply with U.N. resolutions.[174] Similarly, in September 2017, the Chinese central bank issued a written document urging banks to strictly enforce financial sanctions against North Korea.[175] The implementation reports issued by the U.N. likely served as an incentive in this regard.[176]

Chinese Students in Australia, 2017–Present

The experience of Australian universities dealing with declining Chinese enrollment points to the potentially expanding use of Chinese students abroad as a coercive tool. The Australian episode follows the similar use of universities in Taiwan. Education is a good target for Chinese retaliation against Canberra. Like tourism, it allows Beijing to impose economic costs for targeted countries with few downsides on the Chinese student population, which has alternative schools to choose from. Education is Australia's third-largest export.[177] China holds significant leverage over Australia, given that it accounts for almost 40 percent of foreign enrollments[178] and 32 percent of education exports.[179] As with tourism, Chinese authorities can relatively easily redirect student flows through soft warning campaigns.

The potential for Chinese targeting of the Australian university sector emerged after increasing Australian concerns over Chinese foreign influence in its politics. Since 2015, intelligence services have highlighted Chinese donations to Australian parties and politicians

Concern over Chinese influence in Australia, including through Confucius Institutes, pictured above, has led to growing tensions between Canberra and Beijing. (Kreeder13/Wikimedia Commons)

and other Chinese influence operations as posing "a threat to [Australia's] sovereignty, the integrity of [its] national institutions, and the exercise of our citizens' rights."[180] Additional reports have pointed to Chinese efforts to monitor Chinese nationals in Australia.[181] To counter these threats, Australia announced a series of laws tightening controls on foreign influence. China has responded by criticizing these measures as "McCarthyism" and potentially beginning an economic coercion campaign.[182] In February 2018, Chinese diplomats and the Chinese Ministry of Education issued warnings to Chinese students to "maintain vigilance."[183] Nationalist newspapers fanned the popular imagination much as popular boycotts have paralleled government prodding in other episodes of Chinese coercion.[184] Looking to diversify the countries of origin of its foreign students, Australia has looked to Southeast Asia, initiating, for example, an ASEAN-Australia Education Dialogue.[185]

Endnotes

1. As translated in Henry Kissinger, *World Order* (New York: Penguin Press, 2014), 215.

2. Jonathan Hillman, Fellow, Simon Chair in Political Economy, and Director, Reconnecting Asia Project, "China's Belt and Road Initiative: Five Years Later," Testimony before the U.S.-China Economic and Security Review Commission, January 25, 2018, https://csis-prod.s3.amazonaws.com/s3fs-public/publication/ts180125_hillman_testimony.pdf?mSTOaqZbgZdRpx4QWoSt1HtIa4fN42uX.

3. For additional information on the implications of the BRI, see Daniel Kliman and Harry Krejsa, "CNAS Commentary: Responding to China's Belt and Road Initiative," (Center for a New American Security, November 13, 2017), https://www.cnas.org/press/press-note/cnas-commentary-responding-to-chinas-belt-and-road-initiative.

4. In 2013, the Rand Corp. published a large-scale study of Chinese overseas foreign aid and government-sponsored activities that sought to quantify the scale of these activities during the 2000s. Charles Wolf Jr., Xiao Wang, and Eric Warner, "China's Foreign Aid and Government-Sponsored Investment Activities" (Rand Corp., 2013), https://www.rand.org/content/dam/rand/pubs/research_reports/RR100/RR118/RAND_RR118.pdf.

5. For U.S. policymakers, common U.S. coercive economic measures are targeted financial sanctions, embargoes, and trade controls. But coercive economic measures can include any type of restriction on exports, imports, investment, or other business or financial activity that is intended to serve a foreign policy objective—and indeed, China's coercive economic toolkit looks quite different from the U.S. toolkit.

6. Expert opinion is divided about the extent to which China's restrictions on rare earths exports were triggered by the maritime dispute or whether the restriction on exports was initially developed as an industrial policy measure in China. While acknowledging this debate, the authors chose to include the case as one of the case studies in light of its prominence, the fact that Japan and other countries clearly viewed it as an example of Chinese economic coercion, and the fact that it shares a number of characteristics with other cases. See also footnote 18. See, e.g., Damien Ma, "Rare Earth Elements Rear Their Head Again," *The Atlantic* (September 24, 2010), https://www.theatlantic.com/international/archive/2010/09/rare-earth-elements-rear-their-head-again/63515/; and Bonnie Glaser, "China's Coercive Economic Diplomacy: A New and Worrying Trend," Commentary, Center for Strategic and International Studies, August 6, 2012, https://www.csis.org/analysis/chinas-coercive-economic-diplomacy-new-and-worrying-trend.

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REPORT

Weaponizing the Belt and Road Initiative

Daniel R. Russel and Blake H. Berger

Weaponizing the Belt and Road Initiative

DANIEL R. RUSSEL AND BLAKE H. BERGER

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A REPORT OF THE ASIA SOCIETY POLICY INSTITUTE

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COVER IMAGE: Chinese President Xi Jinping gives a speech at a press conference after the Belt and Road Forum at the China National Convention Center at the Yanqi Lake venue on April 27, 2019 in Beijing, China, Wang Zhao - Pool/Getty Images; Aircraft carrier Liaoning in the Western Pacific, RHK111, Flickr, 2018.

ABBREVIATIONS

ASEAN	Association of Southeast Asian Nations
BRI	Belt and Road Initiative
C4ISR	Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance
CCCC	China Communication Construction Company
CCP	Communist Party of China
CITIC	China International Trust Investment Corporation
CMEC	China Myanmar Economic Corridor
CMPort	China Merchant Port Holdings
CPEC	China-Pakistan Economic Corridor
ETF	Escort Task Force
FDI	Foreign Direct Investment
FOIP	Free and Open Indo-Pacific
GDP	Gross Domestic Product
GPS	Global Positioning System
HADR	Humanitarian Assistance and Disaster Relief
ICT	Information Communications Technology
IMET	International Military Education Training
IT	Information Technology
MEU	Marine Expeditionary Unit
MOOTW	Military Operations Other Than War
NDRC	National Development and Reform Commission
ODA	Official Development Assistance
PLA	People's Liberation Army
PLAAF	People's Liberation Army Air Force
PLAMC	People's Liberation Army Navy Marine Corp
PLAN	People's Liberation Army Navy
PRC	People's Republic of China
PSC	Private Security Companies
RO-RO	Roll-on/roll-off
SCO	Shanghai Cooperation Organization
SEZ	Special Economic Zone
SLOC	Sea Lines of Communication
SOE	State-Owned Enterprises
UNSC	United Nations Security Council
USIDFC	U.S. International Development Finance Corporation
VFA	Visiting Forces Agreement

FOREWORD

DEVELOPING COUNTRIES IN THE INDO-PACIFIC REGION ARE UNQUESTIONABLY IN DIRE NEED OF INFRASTRUCTURE FINANCING AND DEVELOPMENT. Beijing's Belt and Road Initiative (BRI) has attempted to fill this void, while expanding to encompass space, digital, and health realms. While Chinese leaders proclaim the BRI to be a "win-win" development tool and disavow any underlying strategic goals, these declarations have not entirely assuaged suspicions and concerns in both host countries and other capitals.

That is why ASPI prepared a report in 2019 entitled *Navigating the Belt and Road Initiative*. That report argued that while filling a critical void in infrastructure financing and development, BRI has resulted in numerous projects that are not fiscally, commercially, socially, or environmentally sustainable. The scale and scope of the BRI are such that even modest improvements in standards and practices could result in significant benefits in project host countries. ASPI underscored how both international and Chinese best practices and standards in infrastructure development if incorporated would significantly boost the overall sustainability of BRI projects.

However, China's more muscular and aggressive foreign policy and continued integration of the military and civilian sectors have prompted increasing concerns among project host states and within the international community that there is more than meets the eye when it comes to certain BRI investments. Washington, Tokyo, and other capitals have raised increasing alarm over Beijing's ulterior motives, as well as BRI projects' dual commercial and military capabilities and their strategic implications.

China's rapid military modernization program, the increasing ubiquity and assertiveness of its navy and air force, and its apparently insatiable appetite for ports worldwide have heightened the West's concern about the BRI's role in China's security strategy. Moreover, the expansion of the BRI into space through the launch of the Beidou Satellite Network and into the digital realm through the Digital Silk Road raises further questions about how Beijing may use technological features of the BRI to enhance its influence over recipient states and to gain military advantages. Particular suspicion has accrued to seemingly overbuilt but underutilized ports along important Indian Ocean trade routes that appear more suitable as potential naval bases than as commercial operations.

It was in this context that the Asia Society Policy Institute (ASPI) decided to conduct an examination of certain BRI infrastructure projects in the Indo-Pacific to assess the BRI's likely military and geostrategic aspects. The project was designed to apply fact-based and objective scrutiny to the question of the military intent, involvement, and benefits from the BRI along China's vital supply lines. This report complements ASPI's other ongoing efforts to analyze the BRI such as the "Navigating the Belt and Road" project.

ASPI Vice President Daniel Russel – whose background as a foreign policy practitioner dealing with the Asia-Pacific region gives him deep and valuable expertise – led this effort in collaboration with ASPI's veteran researcher Blake Berger.

ASPI is grateful to our many helpful contacts in Singapore, Australia, Japan, Vietnam, China, and the United States as well as to the expert advisory group whose distinguished members generously shared their time and wisdom to support this effort. Their help allowed Danny and his team to produce a carefully researched and insightful report that sheds important light on the nature of dual-use BRI projects and their potential strategic and military implications for China, the region, and the United States.

Finally, I would like to thank the Carnegie Corporation for its generous support of this important project.

The Honorable Kevin Rudd
President, Asia Society Policy Institute
26th Prime Minister of Australia

I. INTRODUCTION

THE BELT AND ROAD INITIATIVE (BRI), ANNOUNCED BY CHINA'S PRESIDENT XI JINPING IN 2013, IS A MASSIVE INTERNATIONAL INFRASTRUCTURE PROGRAM INVOLVING NEARLY 140 COUNTRIES AND 30 INTERNATIONAL ORGANIZATIONS.[1] Xi's ambitious vision is to construct a network of infrastructure across the world that will facilitate trade, investment, and connectivity with China. The initiative is a loose portfolio of disparate projects, many of which predate the "Belt and Road" brand. The BRI is composed of the land-based "Silk Road Economic Belt" and the sea-based "21st Century Maritime Silk Road." It encompasses an estimated $1 trillion in infrastructure projects spanning energy, transport, mining, information technology (IT), "smart cities," and special economic zones (SEZs). Supplementing the original "One Belt, One Road" are now the "Digital Silk Road," the "Belt and Road Space Information Corridor," the "Health Silk Road," and the "Green Belt and Road." This proliferation of BRI corridors and roads has provided Beijing with an all-purpose vehicle to support its foreign and economic policies and a brand that links the differing streams together under one rubric.

Preserving party control and ensuring domestic security and stability remain Chinese President Xi's top priorities. However, the BRI is central to his strategy of expanding China's influence and establishing its place as a global leader. Evidence of the BRI's importance is the fact that it was enshrined into the Chinese Communist Party's (CCP) constitution in 2017. The BRI also serves to build in structural economic advantages by enabling China to bring its goods to European and other international markets cheaper and faster than competitors and, at the same time, to secure low-cost access to natural resources through BRI corridors. Increased competitiveness and reliable energy imports through BRI support China's centennial goal of becoming a strong and prosperous society by 2049.

China's leaders have continually framed the BRI as an economic cooperation initiative grounded in "win-win" cooperation that promotes world peace and development.[2] As outlined in the initiative's vision statement, the BRI is meant to improve financial, trade, and people-to-people connectivity; address the urgent need for infrastructure financing and development; enhance policy coordination; and further financial integration.[3] At the 2019 Second Belt and Road Forum, President Xi proclaimed that the BRI "has opened up new space for economic growth, produced new platforms for international trade and investment and offered new ways for improving global economic governance."[4]

Source: The Wall Street Journal

Port infrastructure is central to the BRI because ports are critical to China's economy. Secure access to ports enables China to transport commodities to feed its industrial and domestic needs and to bring its products efficiently to market. Ports, and their associated

sea-lanes, have significant strategic value as conduits for energy as well as goods. As such, they need to be protected.

Ports are one of several strategic components of the Belt and Road Initiative. It also includes other forms of transportation infrastructure such as roads, railways, airports, and energy infrastructure such as pipelines and dams. In fact, energy projects account for approximately 44 percent of overall BRI construction, surpassing transportation infrastructure, which represents roughly 30 percent.[5] Although the importance of physical infrastructure cannot be overstated, the BRI is much more than a portfolio of terrestrial assets. The initiative's expansion into the digital and space arenas underscores its all-encompassing nature. In launching the Digital Silk Road and the BRI Space Information Corridor, the provision of Chinese technology and access to Chinese networks provides Beijing the opportunity to enhance digital connectivity in partner states and regions, advance Chinese technological standards, and support China's rise as a technological power.

Is the BRI a vehicle for creating an expanded Chinese-dominated regional ecosystem that disadvantages the U.S. and likeminded states militarily as well as commercially?

Beijing, however, has gone to great lengths to avoid connecting the BRI with its defense goals. China's military, the People's Liberation Army (PLA), has kept a low profile in the initiative. Senior officers frequently claim that the PLA is not involved in the projects; in fact, protection of BRI facilities overseas is typically left to host governments or to a growing number of ostensibly private Chinese security contractors. President Xi has repeatedly insisted that the BRI is solely about economic cooperation and development and is untainted by military objectives. Only in 2019 did China's defense minister explicitly refer to the BRI in an address to an overseas audience, saying merely that the Chinese military would pursue friendly cooperation with foreign militaries "in the framework of the BRI."[6]

Yet deep suspicion attaches to the BRI and to China's ulterior strategic motives. Some of the mistrust pertains to China's broader "great game." Policy analysts and China watchers regularly warn that the BRI is an effort to advance the CCP's ambitions to secure China's status as a hegemonic power.[7] Indian Prime Minister Narenda Modi expressed his concern that connectivity facilitated by the BRI was undermining the sovereignty of other states.[8] U.S. Secretary of Defense Mark Esper accused China of leveraging its overseas investments to force other nations into suboptimal security decisions.[9] U.S. Indo-Pacific Command's Admiral Philip Davidson characterized the BRI as "a stalking horse to advance Chinese security concerns."[10] Japan's 2019 Defense White Paper highlighted the concern that BRI infrastructure projects are facilitating the expansion of the PLA into the Indian and Pacific Oceans, Africa, and Europe.[11]

That last concern points to the suspicion that China's voracious appetite for worldwide ports – building, buying, or operating them – is anything but benign, particularly taken in the context of China's military modernization program and the development of its globally deployed navy. Will the array of Chinese-owned or operated ports, particularly those along the Indian Ocean, be strung into a powerful chain of fortified military bases to support China's maritime war-fighting capabilities – termed a "String of Pearls"?

China's one acknowledged overseas military base, the PLA's Djibouti Logistic Support Facility, sits at the entrance of the strait linking the Indian Ocean with the Suez Canal through which European markets can be accessed. Sri Lanka's Hambantota Port, a landmark BRI project, is bypassed by shipping traffic despite years of investment and is not even expected to make a profit for years, if ever.[12] Similarly, the Gwadar Port in Pakistan, situated along China's oil lifeline to the straits of Hormuz and the Persian Gulf, has conspicuously failed to attract commercial ships sufficient to make the port financially viable.[13]

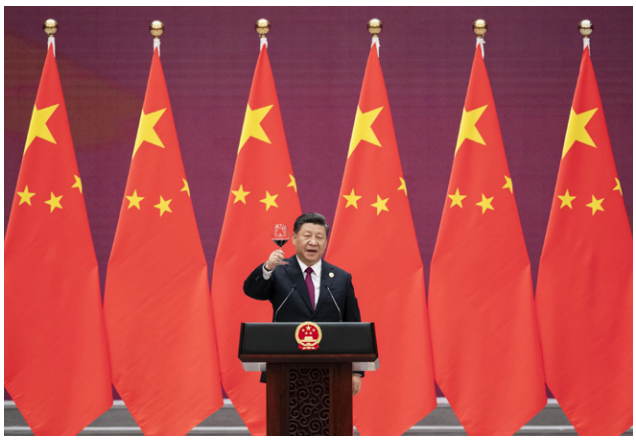
If such BRI projects are not driven by commercial logic, then what is the real rationale behind China's development of infrastructure assets in the Indo-Pacific? Could they be Trojan horses to be leveraged by Beijing and the PLA to advance strategic and defense priorities? What are the military and/or strategic advantages or capabilities that China could accrue from these projects? Despite being promoted in the name of development and commerce, could these infrastructure assets have intentional dual-use military functionality or be readily convertible to use as military bases? Has China harnessed its port projects to the various other forms of leverage from the BRI – effectively weaponizing the initiative to strengthen its coercive and military power?

Similar concerns have been raised over the BRI's technology-focused corridors. Certainly, developing economies would benefit from next-generation Chinese technology and systems that help accelerate their integration into the global digital economy. However, what does Beijing gain by providing these technological assets to BRI states? What kind of military and strategic advantages could China amass through the establishment of the Digital Silk Road and BRI Space Information Corridor? Is the BRI a vehicle for creating an expanded Chinese-dominated regional ecosystem that disadvantages the United States and likeminded states militarily as well as commercially? This report undertakes to examine these questions.

II. IT'S ALL "WIN-WIN": OFFICIAL FRAMING OF THE BELT AND ROAD INITIATIVE

CHINA HAS CONSISTENTLY SOUGHT TO FRAME THE BRI AS A PEACEFUL, "WIN-WIN" INITIATIVE THAT PRODUCES MUTUAL BENEFITS FOR CHINA AND HOST COUNTRIES ALIKE. China has also striven to downplay any military aspects or defense-related characteristics of the BRI or its specific projects. Beijing deliberately changed the official English translation of the Belt and Road in 2017 from "strategy" (战略) to "initiative" (倡议) to reduce its geopolitical overtones.[14] That same year, Xi Jinping went to the trouble of assuring international participants at the Belt and Road Forum that "in pursuing the Belt and Road Initiative, [China] will not resort to outdated geopolitical maneuvering" and went so far as to invoke rusty nonaligned principles from the 1950s.[15] In a separate forum, President Xi insisted, "the BRI is an initiative for economic cooperation instead of a geopolitical alliance or military league."[16]

In keeping with the CCP's effort to downplay geostrategic elements of the BRI, Chinese military officials tend to minimize both the PLA's role in BRI project design and the strategic benefits of having Chinese-owned and operated ports abroad.[17] Retired Admiral Zhang Deshun, the former deputy chief of staff of the People's Liberation Army Navy (PLAN), wrote in an article that China "has no agenda to set up military establishments, or threaten establishments of other nations overseas."[18] Such protestations fit with long-standing efforts by China to persuade the world of its peaceful intentions. The 2019 Defense White Paper offers the soothing assurance that China "stands against aggression and expansion … never follow[s] the beaten track of big powers in seeking hegemony … never threatens any country or seek[s] any sphere of influence."[19]

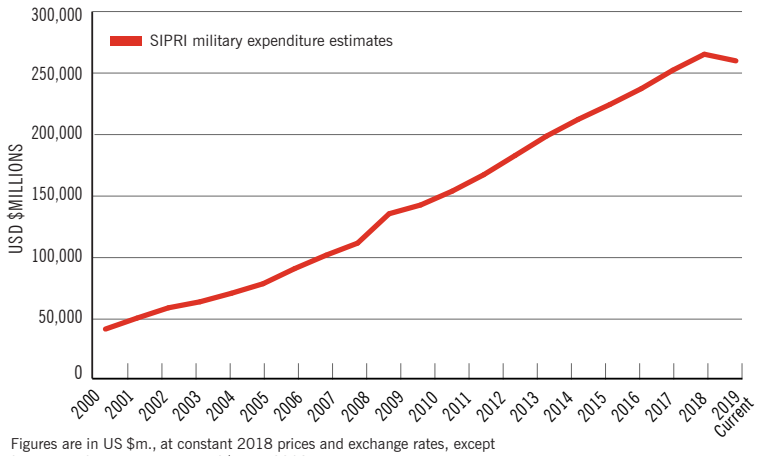


Chinese President Xi Jinping makes a toast at a dinner party of a summit on the country's "Belt and Road" cross-border infrastructure development initiative in Beijing on April 26, 2019, Kyodo News Stills via Getty Images, 2019.

Beijing's claims regarding the peaceful nature of its rise, its respect for others' sovereignty and territorial integrity, its noninterference in the internal affairs of other countries, and its commitment to mutually beneficial win-win development, all form the messaging backdrop to its branding of the BRI. To dispel the perception of a "China threat," Beijing increasingly showcases itself as shouldering increased international responsibilities. Beijing frames anti-piracy, humanitarian assistance and disaster relief (HADR), and counterterrorism activities as examples of China providing public goods to the international community.

The need for China to offer reassurance on the peaceful nature of its rise is driven in no small measure by massive increases in its defense spending and its production and deployment of military assets. China's actual defense spending has grown from $36.9 billion in 1999 to an estimated $266.4 billion in 2019. That is second only to the United States and nearly three times as much as Japan and South Korea combined.[20]

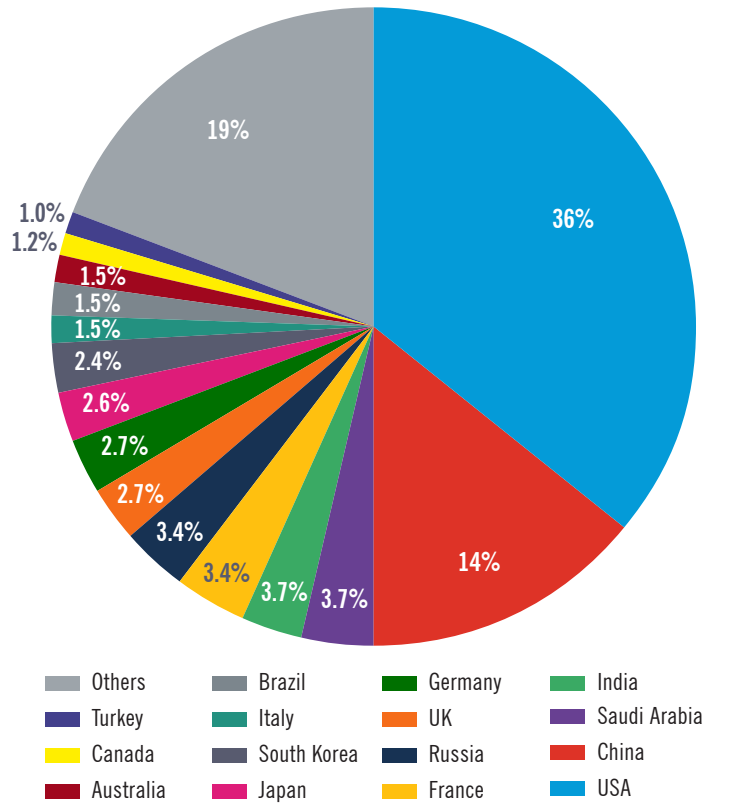
CHINA'S MILITARY SPENDING



Figures are in US $m., at constant 2018 prices and exchange rates, except for the last figure, which is in US$m. at 2019 prices and exchange rates

Source: Stockholm International Peace Research Institute (SIPRI)

TOP 15 COUNTRIES WITH HIGHEST MILITARY EXPENDITURE 2019



Source: Stockholm International Peace Research Institute (SIPRI)

While Beijing's military strategy remains heavily focused on defending China's borders and near-seas, through military reforms and modernization since 2015, the PLA has significantly bolstered its ability to operate farther afield. New military assets have increased its expeditionary capabilities. Long-range bombers and modified special mission aircrafts have expanded the People's Liberation Army Air Force's (PLAAF) operational range. New PLAN vessels, including a domestically built aircraft carrier and supporting supply ships that can operate farther offshore, bolster the military's ability to go beyond continental defense toward expeditionary operations.[21] Chinese shipbuilders are now producing new warships, including advanced, highly capable surface combatants and submarines, at a rate that far outstrips that of the United States and its allies. It is estimated that by 2021 China will have roughly 124 warships and submarines that would be suitable for conducting "blue water" overseas missions.[22] Moreover, its shipyards are also producing large numbers of commercial roll-on, roll-off (Ro-Ro) vessels that can be used to supplement China's military sealift capabilities.[23]

China's claims of peaceful intent have been met with widespread skepticism. The U.S. National Security Strategy of 2017 states that China is fielding military capabilities aimed at denying America access in times of crisis and contesting our ability to operate freely in critical commercial zones during peacetime. It describes China as operating "below the threshold of open military conflict and at the edges of international law," warning that Beijing seeks to displace the United States in the Indo-Pacific and reorder the region in its favor.[24] Australia's Defense Minister Linda Reynolds warned of China's exponential increase in

military modernization and its continued militarization of disputed features in the South China Sea, despite publicly undertaking not to do so.[25] Even Southeast Asian governments, normally circumspect in cautioning Beijing about its threatening behavior, have expressed concern about China's behavior in the South China Sea, although none as bluntly as then-president of the Philippines Benigno Aquino III who likened China's activities to Nazi Germany's annexation of the Sudetenland prior to World War II.[26]

While expressions of concern over China's military ambitions in the South and East China Sea abound, relatively few governments have directly addressed the military implications of the BRI. India, which regards the BRI's China-Pakistan Economic Corridor (CPEC) with alarm, is one of them. Indian officials and commentators also express concern more broadly about BRI projects along the Indian Ocean constituting a security threat.[27] These warnings were reflected in two 2019 reports released by the Pentagon that forecast that BRI projects will probably drive China's overseas military basing due to a perceived need to provide security for projects abroad.[28]

China consistently denies that it plans to build overseas bases – most recently rebutting reports of an agreement with Cambodia to lease part of the port of Koh Kong for use by the PLAN.[29] Historically, the CCP's narrative of shunning expansionism has rejected the idea of establishing military bases overseas. Chinese Defense White Papers proclaimed that "China does not seek military expansion, nor does it station troops or set up military bases in any foreign country."[30] Chinese officials repeatedly tell Western audiences that "China has not occupied a single square inch of foreign soil … nor has it possessed any overseas military bases."[31] As analysts at the National Defense University have pointed out, China has long been concerned that the establishment of overseas bases would damage the country's image as a peaceful rising power and threaten its economic growth as a result.[32]

China has also strived to downplay any military aspects or defense related characteristics of the BRI or its specific projects.

That is not to say that there has been no debate over the idea of overseas basing. As far back as 2009, a PLA officer wrote in a *Global Times* op-ed, "if we make things difficult for ourselves … by maintaining a rigid understanding of the doctrines of nonalignment and the non-stationing of troops abroad, then it will place a lot of constraints on us across the board."[33] The following year, shortly after China joined multinational anti-piracy operations in the Gulf of Aden, a prominent scholar argued that overseas basing should not be a taboo, writing, "Setting up overseas military bases is not an idea we have to shun; on the contrary, it is our right. Bases established by other countries appear to be used to protect their overseas rights and interests."[34] Nearly seven years later in 2017, the establishment of the PLA's Djibouti Logistics Support Facility appears as a reflection of that logic and a likely harbinger of things to come.

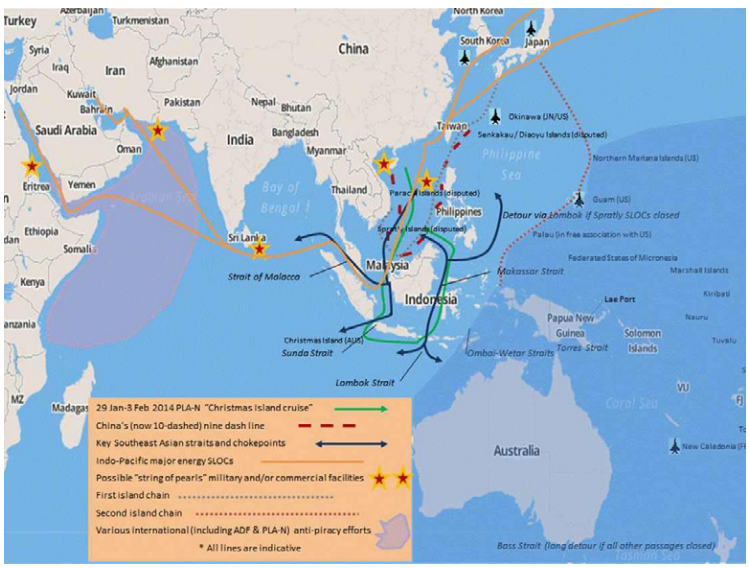
III. THE FLAG FOLLOWS COMMERCE: THE BRI WITHIN CHINA'S SECURITY STRATEGY

UNDER PRESIDENT XI, ACHIEVING THE CHINESE DREAM OF THE GREAT REJUVENATION OF THE CHINESE NATION HAS BEEN A CONSISTENT THEME AND A DRIVING GOAL. Xi has also made clear that becoming a great nation requires a strong military that is always "ready for the fight, capable of combat, and sure to win."[35] Since the founding of the People's Republic, China's military strategy has been "active defense" of the homeland. The main premise of active defense is that China would only attack after being attacked.[36] In that context, the job of the PLAN has been keeping potential enemies as far as possible from China's eastern coast – its economic engine.

One of the key priorities and drivers behind China's military modernization is deterring Taiwan's independence and eventually compelling its unification with the mainland. Underscoring the importance of the strategic threat, China's 2019 Defense White Paper stated that it would not only "oppose and contain Taiwan independence" but also declared that "the PLA will resolutely defeat anyone attempting to separate Taiwan from China and safeguard national unity at all costs."[37] A critical part of this strategy is to develop a force that can dissuade, deter, and even defeat any third-party intervention within China's near-seas and in dealing with Taiwan.

In 2004, under the slogan "New Historic Missions," President Hu Jintao expanded the declared geographic scope of China's security interests by tasking the military to defend China's overseas interests and to uphold international peace and security.[38] A decade later, China's "winning informatized local wars" military strategy reflected an enhanced emphasis on the maritime domain, stressing also the importance of technology, data collection, and joint operations among PLA services. In 2012, the 18th Party Congress that elevated Xi Jinping also declared that China should become a "strong maritime power." In 2013, the PLAN's long-standing strategy "Near Seas Defense" was amended to become "Near Seas Defense, Far Seas Protection." In its 2019 Military White Paper, "China's National Defense in the New Era," Beijing calls on the PLA to safeguard China's maritime rights; national sovereignty, territorial integrity, and unity; outer space and cyberspace security interests; and overseas interests.[40]

This evolution in military strategy is both understandable and consistent with Chinese strategic logic, given the rapid expansion of China's overseas interests and its dependence on imports of energy and raw materials through vulnerable sea lines of communication (SLOC). In meeting its security needs and transitioning to a dual "near seas defense and far seas protection" navy, China first bolstered its military's capacity to defend its borders and adjacent seas. It then turned to the far-seas mission of naval



Source: Australian Strategic Policy Institute

protection far from home. It has undertaken a range of advancements and developed new capabilities in multiple domains. These steps have enhanced the PLA's ability to impose costs on adversaries and to restrict others' access and freedom to maneuver within the first island chain, stretching from the Kurils through Taiwan and Borneo and the Yellow, East, and South China Seas. The additional far-seas protection mandate has required new expeditionary capabilities and training to safeguard SLOCs and China's growing portfolio of overseas assets. This has led to an enhanced PLA push for maritime superiority into the second island chain, which runs from Japan through Guam and on to Indonesia.[41]

This expanded military strategy was accompanied and enabled by the dramatic growth of defense spending, as noted earlier. That growth corresponds with a greater emphasis on maritime domains. Whereas China's overall defense budget grew by roughly 55 percent since 2015, funding for the PLAN has increased by roughly 82 percent.[42] The PLAN has developed into the world's largest naval force with a growing inventory of submarines, supply ships, guided-missile cruisers, destroyers, frigates, and now aircraft carriers – blue water assets that enhance the PLAN's ability to operate farther afield.[43]

But this expansion is not limited to hardware. The PLAN has taken part in a wide range of military operations other than war (MOOTW), including humanitarian assistance and disaster relief, civilian evacuations, and anti-piracy operations beyond the second island chain. Along with an expanding area of operations, the Chinese military requires logistics systems to replenish and support forces deployed overseas. Some of this is done through PLA assets and operations. But much of the supply and replenishment is conducted through expanding Chinese commercial logistics networks. This synergy has been buttressed by the enactment of multiple regulations and laws advancing civil-military integration. Specifically, these are measures that provide the PLA with the authority to call upon civilian fleets and commercial assets for support. More on that later.

Clearly, China has studied the U.S. playbook and, in some respects, appears to be adapting it with Chinese characteristics. Just as over the past decades the United States has employed military diplomacy to bolster and supplement traditional avenues of political and economic diplomacy, we see the Chinese increasingly undertaking similar activities. These include ramping up arms sales, bilateral and multilateral military exercises, and educational and training programs.

While the Chinese have been skittish about acknowledging an overt military component to BRI projects or strategies, they have been vociferous in making the case for a link between security and development.[44] On the one hand, security is a condition for sustained economic development – both domestic and external. "A tree cannot grow tall or bear fruit in a barren land torn apart by the flames of war," as former State Councilor Yang Jiechi put it. On the other hand, economic development supports stability and security. Yang also pointed out that "to build lasting security, development and prosperity must be inclusive."[45] Highlighting the connection between stability and economic growth at the 2013 Peripheral Diplomacy Work Conference, President Xi stated that the key objective of "peripheral diplomacy" was maintaining stability in the country's neighborhood so that China could establish a new regional economic order through the BRI.[46] Xi underscored that for the BRI to be successful, it required a stable political and security environment. He later warned that some countries along the Silk Road face "conflict, turbulence, crisis and challenge" warranting a "common, comprehensive, cooperative and sustainable … security environment built and shared by all."[47] More recently, in an address to the Central Party School, Xi explicitly called for a stronger BRI security system to protect China's overseas interests, personnel, and projects.[48]

IV. CHALLENGES FACING THE PLA

INNATE TENSION EXISTS BETWEEN CHINA'S NEAR- AND FAR-SEAS DEFENSE IMPERATIVES AS LONG AS THE CCP'S TERRITORIAL AMBITIONS HAVE NOT BEEN SECURED. The CCP's core goals include reunification of Taiwan, by force if necessary, exercising sovereignty over some or all the South and East China Seas, and securing its land border with India. These priorities will tend to limit the resources that China can devote to projecting military power beyond East Asia. Nevertheless, the growth of Chinese investments and projects around the world has pushed the military, and especially the PLAN, to be able to operate farther away from the mainland.

China's Academy of Military Science issued a major study in 2013 that assessed that "sea lanes and channels have become [China's] economic and societal development 'lifelines'… [but are neither] possessed nor controlled by us; in case a maritime crisis or war were to happen, our maritime routes have the possibility of being cut off."[49] These maritime routes run from North Africa and the Middle East through the Strait of Hormuz, the Indian Ocean, the Malacca Strait, and the South China Sea. These are the conduits for roughly 80 percent of China's imported oil.[50] More broadly, nearly 40 percent of China's gross domestic product (GDP) comes from foreign trade, and well over 60 percent of that moves by sea.[51] With increasing reliance on SLOCs to transport energy supplies and goods, Beijing has an understandable concern about the vulnerability of maritime supply lines. Planners are alert to the risk that key straits could become strategic chokepoints. With the mission to defend overseas interests and protecting SLOCs primarily falling on the navy, in 2018, South Sea Fleet Commander Wang Hai stated that we "must closely coordinate with the Belt and Road Initiative, use multiple means to safeguard the security of strategic sea lanes in the region, and ensure that strategic capabilities can extend and radiate wherever China's interests develop."[52]

With an expanding area of operations, the Chinese military requires logistics systems to replenish and support forces deployed overseas.

While the PLAN has taken steps to improve its capabilities to operate overseas in light of the growth of Chinese overseas interests, the limitations facing the PLA's logistics and overseas operations capacity have become increasingly evident.[53] Retired PLAN Rear Admiral Yin Zhuo cautioned that morale and readiness were damaged by multiple three-month deployments in the Gulf of Aden. In the past, the Gulf of Aden Escort Task Force (ETF) included a replenishment ship that limited the ETF's ability to sustain long deployments. For this reason, Yin was an early advocate of the establishment of an overseas base to ease the strain on logistics and supply lines in sustained overseas operations.[54] Beyond the capacity to maintain rotation cycles, the PLAN has struggled to provide fresh food, maintain and repair ships, and provide adequate medical care.[55] Other senior PLAN officials have acknowledged that uncertainty over foreign berthing facilities, personnel relief, and equipment servicing has limited the ability of the PLAN to regularly conduct overseas operations.[56]

BRI installations themselves have vulnerabilities and, as we have seen in Pakistan, for example, are vulnerable to terrorist attack. Beyond the maritime infrastructure assets themselves and the risk of terrorism, China's energy security and SLOCs are threatened by piracy and potential interdiction by an adver-

sary's navy. Prior to launching the Gulf of Aden ETF in 2008, more than a fifth of the more than 1,200 Chinese owned, cargoed, or crewed vessels traveling through Somalian waters faced piracy, and seven ships were attacked that year. [57]

Zhoushan" and FFG "Xuzhou" of the Chinese PLA Navy 7th Escort Task Force arrives in the Port of Durban on April 4, 2011, RAJESH JANTILAL/AFP via Getty Images, 2011

In addition to protecting these facilities and supply lines, new PLA missions include protecting Chinese overseas businesses, interests, and citizens. Prior to the COVID-19 outbreak, more than 140 million Chinese citizens traveled abroad in a single year.[58] An estimated 40,000 Chinese enterprises have offices around the world. China's overseas properties and investments are thought to total roughly $7 trillion.[59] The number of Chinese citizens living overseas has grown to more than 5.5 million.[60] The BRI has only accelerated this overall trajectory, with heavy investments by Chinese state-owned enterprises (SOEs) and hundreds of thousands of workers overseas.

Chinese businesses, investments, and infrastructure projects are in development in states that are prone to conflict and crisis. This has led to increased security and political risks for Beijing and placed on the PLA the monumental and unfamiliar task of protecting Chinese people living overseas. During the Libya conflict in 2011, the military evacuated roughly 35,000 citizens from the country. As the conflict in Yemen heated up in 2015, the PLAN's Gulf of Aden Counterpiracy Flotilla was tasked to evacuate some 800 citizens and foreign nationals.[61] These real-world instances of Chinese citizens being kidnapped not only spawned movies such as *Operation Red Sea and Wolf Warrior* but also created political pressure on the CCP to safeguard Chinese citizens overseas.

For the protection of businesses and projects, the Chinese government relies heavily on host country security in the first instance and secondarily on a growing number of private Chinese paramilitary security firms. In Pakistan, the responsibility of protecting CPEC has largely fallen on the national and provincial governments. The Pakistani government in 2016 established a special security division made up of roughly 15,000 Pakistani army soldiers and paramilitary forces. Provincial governments have followed suit setting up security forces largely composed of police officers to guard investments along the economic corridor.[62] While primarily relying on host country security arrangements, Chinese private security companies (PSC) have ramped up their engagement in Africa following the growth of Chinese investments and businesses on the continent. Some of China's largest PSCs have established a presence in Africa. Hua Xin Zhong An, one such company, provides armed escort services for commercial vessels traversing the Horn of Africa.[63] Another, the DeWe security group, currently operates in Kenya, Sudan, South Sudan, and Ethiopia and has been tasked with protecting Kenya's Nairobi-Mombasa Railway, a BRI project, and Chinese oil and gas investments and operations in the latter three countries. Signaling a more robust presence in Africa, DeWe in 2017 announced that it would be constructing permanent private security monitoring and response facilities in South Sudan and the Central African Republic.[64]

LARGEST AND MOST ACTIVE CHINESE PSCs[65]		
CHINESE PSC	**EMPLOYEES**	**WHERE THEY CLAIM TO OPERATE**
Hua Xin Zhong An	15,000+	Global presence with a focus on the BRI
DeWe Security Group	500+	Global presence
China Overseas Security Group	20,000+	South America, Middle East, Africa, Southeast Asia, and South Asia
Frontier Services Group	400+	Africa and the Middle East

Source: Sergey Sukhankin, "Chinese Private Security Contractors: New Trends and Future *Prospects*," *Jamestown Foundation's China Brief*, Vol.20, Issue: 9, May 15, 2020, https://jamestown.org/program/chinese-private-security-contractors-new-trends-and-future-prospects; Helena Legarda and Meia Nouwens, "Guardians of the Belt and Road: The Internationalization of China's Private Security Companies," *Merics China Monitor*, August 16, 2018, https://merics.org/en/report/guardians-belt-and-road.

China's new crop of private security firms employs retired PLA personnel and has other connections with the Chinese military. But their use avoids the tricky optics and trickier politics of deploying Chinese troops on foreign soil. The use of PSCs provides China with diplomatic cover should an incident occur and the ability to mitigate local concerns, especially in Southeast Asia where states would be suspicious of any PLA presence. There are exceptions, however – in Tajikistan, the establishment of a Chinese para-military facility (albeit unacknowledged by Beijing) runs counter to the norm.[66]

Multiple BRI projects in Central Asia, including energy pipelines, carry risks to China's personnel as well as its energy security. The Line D gas pipeline, which is expected to be operational in 2024, runs from Turkmenistan thorough Uzbekistan, Tajikistan, and Kyrgyzstan to China. This pipeline alone is slated to supply roughly 25 percent of China's gas imports.[67] Notwithstanding Beijing's reliance on host countries to provide protection or its growing use of private security firms, Beijing has signaled that it sees the need to show readiness to provide military protection for BRI projects. In 2018, Chinese Defense Minister Wei Fenghe announced in Pakistan that he was ready to "provide strong security guarantees" for BRI projects.[68]

In addition to protecting BRI facilities and supply lines, new PLA missions include protecting Chinese overseas businesses, interests, and citizens.

Terrorism, one of the "three evils" that China has vowed to confront, is clearly a driver for potential PLA protection for BRI projects.[69] Combating terrorism is a national priority since China seeks to prevent terrorist groups or fighters from gaining a foothold along its borders let alone within them. The original One Belt, One Road program had roots in China's desire to develop and pacify its restive western provinces – particularly Xinjiang. Revelations about the extreme oppression of Muslim Uighurs in Xinjiang generated calls for action against China by groups such as Al-Qaeda, ISIS, and the Turkestan Islamic Party. The border between Xinjiang and Tajikistan and Afghanistan is a particular focus of Beijing's concern over the possibility of secessionist or terrorist groups collaborating with Chinese Uighurs. Preventing Tajikistan, which hosts key Chinese investments, from becoming a safe haven from which groups can infiltrate or target China is a key goal for Beijing. The U.S. announcement in 2014 of plans to withdraw troops from Afghanistan heightened Chinese fears and led Beijing to ramp up its security engagements and deployments along its porous border.[70]

V. HOW THE BRI IS USED TO ADDRESS CHINA'S SECURITY CHALLENGES

WHILE CHINA HAS CONTINUALLY FRAMED THE BRI AS AN ECONOMIC AND DEVELOPMENT INITIATIVE AND DOWNPLAYED OR DENIED A MILITARY AGENDA, IT HAS SIMULTANEOUSLY PROMOTED CIVIL-MILITARY INTEGRATION OR "FUSION." Civil-military fusion has been advanced through a series of laws, regulations, and reforms that ensure civilian resources can be deployed to support the military. China's current Five-Year Plan explicitly states that China will implement integrated civilian-military development projects and specifies that these will extend to include the maritime space beyond China's borders.[71] Civil-military integration was listed as a key pillar of the 2015 military reform agenda and made part of the national strategy.[72] In speech after speech, President Xi has described civil-military integration as a prerequisite for building a strong military.[73] And China's 2015 white paper commits the armed forces to this goal and specifically mentions building infrastructure in ways that ensure that military and civilian resources can be "compatible, complementary, and mutually accessible."[74]

Beijing's policy is to develop BRI port projects in the Indo-Pacific with civilian-military dual-use functionality, despite periodic Chinese claims to the contrary.

Isaac Kardon, a preeminent expert on China's military, testified to the U.S. – China Economic and Security Review Commission in February 2020 that the "military-civilian fusion program reflects and advances a clear leadership preference for leveraging growing overseas People's Republic of China (PRC) commercial capacity."[75] But civil-military fusion is more than an aspiration for China; it is the law. Multiple pieces of legislation contain provisions promoting if not mandating interoperability between civilian and military projects. Chinese-made civilian infrastructure projects, by law, must now conform to military specifications. And overseas projects, such as the BRI, are not excluded from this mandate. These laws also provide the PLA with the authority to commandeer civilian assets and resources. The 2017 National Defense Transportation Law specifies its purpose as "strengthening the construction of national defense transportation, promoting the development of military and civilian integration in the transportation field, and guaranteeing smooth progress of national defense activities." Articles 2 and 3 of the law direct "planning, construction, management, and use of resources in transportation fields such as railways, roads, waterways, aviation, pipelines, and posts for the purpose of satisfying the national defense requirements." It declares that to further civil-military integration, the state will promote the allocation and sharing of military and local resources and the coordinated development of economic and national defense construction.[76]

The National Defense Mobilization Law of 2010 emphasizes the importance of "combining peacetime production with wartime production" and embedding the military within the civilian sector. It explicitly states, "any organization or individual has the obligation to accept the expropriation of civil resources in accordance with the law." The law also establishes a system for civilian enterprises to maintain and transfer "strategic material reserves" to the military. It further underscores that construction projects "which are closely related to national defense shall meet the national defense requirements and possess national defense functions."[77] An earlier law on defense mobilization of civil transport encourages civilian entities to select vehicles and equipment that can be used by the military in wartime or in peacetime.[78] Thus, private transportation can be commandeered and civilian infrastructure projects should be built

according to national defense requirements. While some aspects of China's civil-military integration may be challenging to implement in overseas BRI projects, at a minimum, host governments should anticipate that Chinese contractors will observe these legal requirements for relevant infrastructure.[79]

China's grey zone tactics in the East and South China Seas illustrate another dimension of the close relationship between the military and the civilian. China uses fishing vessels and "white-hulled" coast guard ships to interfere with U.S. naval operations. The use of nominally civilian ships deliberately puts the U.S. Navy at a disadvantage in the sense that even the defensive use of force by a "grey-hulled" naval ship would be damaging to America's image. Chinese fishing fleets and paramilitary coast guard ships are also used to threaten and harass the Philippines, Vietnam, Japan, and other regional competitors. Beijing has used these assets to assert administrative control over disputed maritime zones and features in the contested waters. In June of this year, a Chinese ship intentionally rammed and sank a Vietnamese fishing boat near the Paracels – one of a long string of such attacks using specially designed steel-hulled vessels.[80] These grey zone tactics are analogous to Beijing's "first civilian, later military" approach in developing dual-use infrastructure.

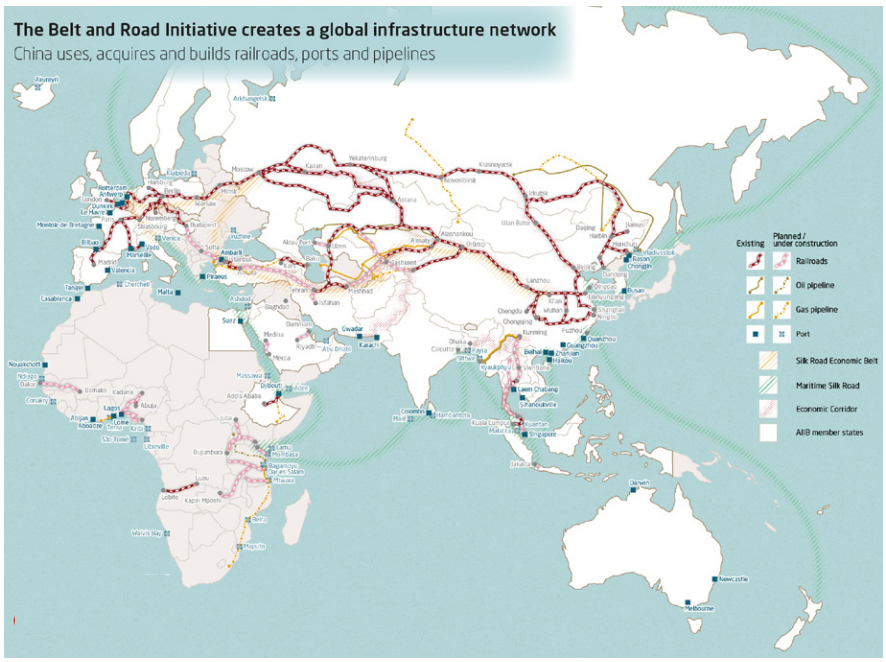
It seems clear, therefore, that Beijing's policy is to develop BRI port projects in the Indo-Pacific with dual-use functionality, despite periodic Chinese claims to the contrary. Specifically, Beijing appears to seek ports with terminals capable of supporting various types of PLA military operations. This includes high-standard Ro-Ro features to unload heavier than normal cargo (e.g., armored vehicles), berth depths that are least 10 meters (to accommodate warships), cold storage facilities, assembly sites, and heavy-duty reinforced access roads. While Chinese officials at times deny having a dual-use strategy, numerous PLA officers and defense commentators are on record complaining that Chinese companies have not done enough to ensure that overseas port construction has met the national defense requirements.[81]

Civil-military fusion has a sequential aspect. Beijing's first civilian, later military framework seeks to lay the groundwork for military utilization without raising red flags or inviting resistance. This model posits that Chinese developers should use local resources, establish an economic development zone, and

Source: MCC Singapore

support industries that enhance the port's capacity to support Chinese vessels, including navy ships, and that create an "advantageous external environment."[82] Thus while ports that are able to accommodate both civilian and military vessels have strategic value – especially deep-water ports – so too does the commercial environment surrounding the port.

Under the BRI banner, Chinese SOEs are therefore encouraged to utilize the "port-parks-city" development model, also known as the "Shekou Model." This approach mirrors the development in the 1980s of the combined port and export zone near Hong Kong in China's Guangdong province that sparked Shenzhen's growth as a commercial and industrial hub. The model entails developing adjacent industrial parks, commercial buildings, highways, free trade zones, residential areas, and power plants.[83] While centered on the port, the goal of the model is not merely to facilitate the transportation of goods but to develop a larger, integrated system that helps sustain the port and is sustained by it in turn. While commercial in nature, this network boosts the military utility of a port by co-locating both local and Chinese support industries, such as ship building, communications, and transport logistics.[84]



Source: Merics

The increasing interoperability between the military and civilian firms and assets is central to the expansion of China's power projection and influence. Chinese firms – mostly SOEs – own or operate some two dozen ports in the Indian Ocean alone, with roughly an equal number of ports in Europe.

Access to ports of call that are owned and operated by Chinese firms permits the PLAN to harness civilian resources and to improve its overseas operational logistics capabilities. Chinese SOEs are ready partners with the PLAN and have already been engaged in supporting the military overseas. Two of China's giant SOEs, China Merchant Port Holdings (CMPort) and COSCO, have actively participated in numerous PLAN exercises overseas.[85] They and other companies also handle PLAN port calls and husbanding.[86] Little surprise, therefore, that a PLAN commander boasted, "Wherever there is Chinese business, our warships will have a transportation support point."[87]

This overseas support system shortens and shields the PLAN's resupply routes and enhances its strategy delivery capabilities. Thus, the development of a Maritime Silk Road network that includes dual-use ports along key SLOCs will enable the PLA to expand its area of operations.

The expansion of the BRI is not only terrestrial. Cyberspace and outer space constitute two other domains connected by the BRI network. Each of these domains has dual civilian and military utility. And as China's 2015 white paper on military strategy points out, both are arenas for international strategic competition where China is determined to secure its national interests. Not only is cyberspace a "new pillar of economic and social development"; it is also a new domain of national security. The white paper argues that China must enhance its cyber capabilities to ensure national and information security, stem crises, and maintain stability.[88] The Digital Silk Road – covering cyberspace – and the Belt and Road Space Information Corridor – covering outer space – provide Beijing with additional channels to strengthen its influence and leverage in project host states. Additionally, these newer components of the BRI promote the incorporation of Chinese technological standards and advance key national strategic and defense aims.

The State Council mandated the Belt and Road Space Information Corridor in 2016 with the goal of using space technology to support the development of the BRI and strengthen participant states' links to China. Central to this corridor is the Beidou satellite system that is meant to serve as the "digital glue for the roads, railways, ports, and industrial parks" being developed under the BRI flag.[89] Components of the corridor are to include navigation, remote sensing, weather, communication, data-relay satellites, and ground stations and data centers. Applications include but are not limited to disaster relief, port operations, transportation, financial services, agriculture, and urban planning.[90] With the recent completion of the 35-satellite Beidou system, China should be in a position to provide this range of services to all countries along the BRI. As the Beidou system becomes fully operational and more widely utilized, China will be able to reduce BRI partner governments' dependence on the U.S.-operated global positioning system (GPS) and bring them further under its technological umbrella.

The declared goals of the Digital Silk Road include constructing and strengthening internet infrastructure, improving communication connectivity, enhancing cybersecurity, promoting e-commerce, and developing common technology standards.[91] China's March 2015 white paper placed space and digital connectivity as top cooperation priorities and called for the construction of optical cables and communication trunk-line networks to improve communication connectivity.[92] As of 2019, China had invested an estimated $79 billion into Digital Silk Road projects. Under this digital umbrella, China has developed a fiber-optic cable network in more than 70 countries, with SOEs, including Huawei and ZTE, playing a leading role in their construction.[93] In Southeast Asia alone, Chinese companies have completed more than 12 underwater cable projects with an estimated 20 additional projects underway.[94] In tandem with the construction of fiber-optic networks, China has been building data centers that store internet user information.[95] Beijing considers big data a "fundamental strategic resource,"[96] and these investments in technology infrastructure build in access by Chinese tech companies to massive amounts of data in BRI countries. Huawei is developing 5G networks, not only in close partner nations like Cambodia and Pakistan but also for a large and growing number of BRI partners and other countries throughout Asia, Africa, and the Middle East.[97]

The Intelligent Operation Center Management center developed by Huawei is seen during the Barcelona Smart City and Smart Mobility Expo World Congress, Paco Freire / SOPA Images/SOPA Images/LightRocket via Getty Images, 2018.

China is also working to export its Smart Cities and Smart Ports programs, which integrate and organize a wide array of data sources into a centralized platform to boost efficiency and facilitate economic activity. Smart City technology aims to make cities greener and safer by monitoring factors like resource and energy usage (and waste), traffic, and pollution levels. However, its technologies also include networked cameras, sensors, and location services that can be used for legitimate policing or for authoritarian repression. The Smart Ports system similarly integrates data and streamlines analysis and processing, allowing for increased automation and efficiency tracking of goods, vessels, and other data points. Both of these programs, which have been pioneered within China, enhance coordination, efficiency, and speed. But the adoption of Smart Cities and Smart Ports systems throughout the BRI network will further increase host countries' already heavy reliance on Beijing for information communications technology (ICT) systems and platforms.

This growing space and digital component of BRI has a commercial rationale and offers a number of potential benefits to recipient countries. At the same time, both the Digital Silk Road and the Space Information Corridor, which generate immense streams of big data, directly support the next-generation artificial intelligence technologies that China seeks to dominate.[98] Beijing's access to and potential control of vast amounts of information have clear military and intelligence implications. The big data harvest from BRI can bolster the PLA's capabilities in what the military calls C4ISR – Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance. The use of the Beidou Satellite Network removes the PLA's vulnerability under the U.S.-controlled GPS system. And widespread adoption of Beidou challenges American technological dominance and increases China's leverage over third countries. Beyond the collection of data or any military advantages, the spread of the Digital Silk Road and the Space Information Corridor systems helps promote Chinese influence, commercial interests, and standards.

The Digital Silk Road and the BRI Space Information Corridor generate immense streams of big data and support the next-generation artificial intelligence technologies that China seeks to dominate.

In sum, we are witnessing the emergence of an integrated set of Belt and Road–related initiatives combining dual-use infrastructure, Smart Ports and Cities, and space and digital systems. These programs contribute to building a BRI ecosystem that serves to magnify Beijing's influence well beyond the economic sphere. Beijing's BRI strategy bolsters its technological, economic, political, and security interests and affords it increased rule-setting power. The implications of these trends for U.S. influence and competitiveness, as well as for the operations of the U.S. and other militaries, will be discussed in section VIII of this report. However, it is worth bearing in mind that President Xi has called for the creation of a new regional security order in the Asia-Pacific and denounced the U.S.-led alliance structure as anachronistic and no longer "conducive to maintaining common security."[99] Reducing the ability of the United States to intervene has been a component of Beijing's efforts in the Indo-Pacific, along with the push to make the region more amenable to Chinese policies and preferences.[100] Thus, the BRI can be seen as an instrument for advancing these strategic goals, not merely though well-documented economic leverage and political advantage from projects but also through the various technological advantages embedded in the Digital Silk Road and Space Information Corridor.

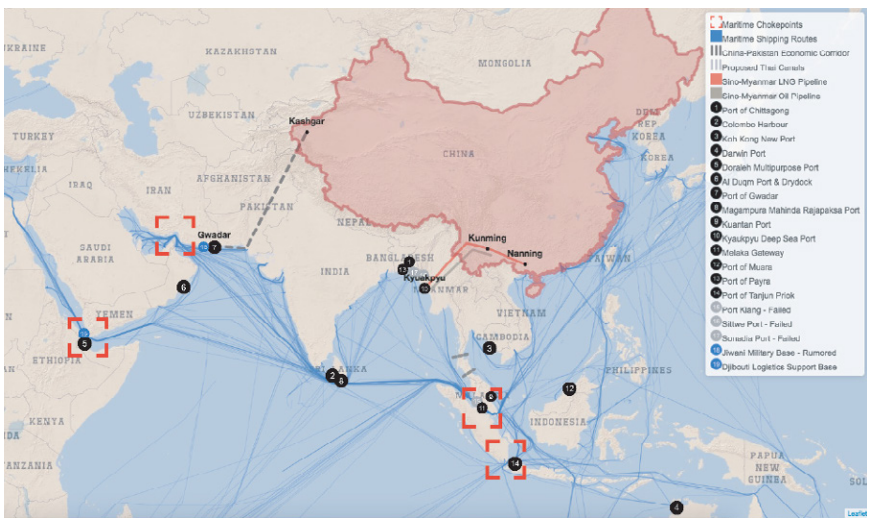
VI. "STRATEGIC STRONGPOINTS" AND THE BRI

CHINA IS ACTIVELY ENGAGED IN THE CONSTRUCTION AND DEVELOPMENT OF PORTS WITH DUAL-USE FUNCTIONALITY ALONG THE MARITIME SILK ROAD. These ports form a network of transportation nodes extending from the Chinese mainland through the South China Sea and Malacca Straits into the Indian Ocean and to the Middle East. They have the potential to help the PLA secure critical maritime chokepoints, safeguard SLOCs, and expand the range of support that can be provided to Chinese citizens and PLA forces operating abroad.

Not surprisingly, the Chinese have a word for such ports – "strategic strongpoints." The National Development and Reform Commission's (NDRC's) current Five-Year Plan calls explicitly for "the construction of 'strategic strongpoints' along the 21st Century Maritime Silk Road." It goes on to specify that this means building and operating major ports with industrial clusters around them as part of a strategy to ensure that maritime trade routes are kept open.[101] Chinese experts describe strategic strongpoints as ports capable of offering logistical support to Chinese vessels to create an "advantageous external environment for China."[102] From the homeland, they "radiate into the periphery, and move us in the direction of the [Pacific and Indian] Oceans" to serve as a forward support base for military deployment and to "exert political and military influence in relevant regions."[103]

The strategic strongpoint concept is a flexible one – ports can have differing configurations and attributes depending on a number of variables. One factor is a port's geostrategic value, including its proximity to maritime chokepoints and SLOCs. Another is the extent of Chinese state and private sector investment and operational control of the port and its surrounding infrastructure. And public tolerance in the host country for a significant Chinese presence – let alone a military presence – is also a significant variable, as is Beijing's political leverage with the host government authorities.[104]

China's BRI strategic strongpoints fall on a spectrum of military usage. At the low end are commercial ports that can provide indirect support for the Chinese military via civilian ships that replenish PLAN ships in open waters. In other cases, PLAN ships may be able to dock for resupply at the port's commercial facilities. The Djibouti Logistics Support Facility, which will be described later in this chapter, sits at the higher end of the spectrum as an overt military logistics facility. What China does not currently possess – but is suspected of seeking through its first civilian, later military approach – is a military base that can be defended in wartime and that provides the PLA with a platform to conduct operations.



Source: Thorne and Spevack, "Harbored Ambitions."

Four port projects in particular have been flagged by Chinese strategists as potential strategic strongpoint sites in the Indo-Pacific and are worth examining.[105] Each is at a different stage of development, including in terms of actual or potential military functionality. They are Pakistan's Gwadar Port, Cambodia's Koh Kong Port (including the Ream Naval Base), Sri Lanka's Hambantota Port, and Myanmar's Kyaukphyu Port.

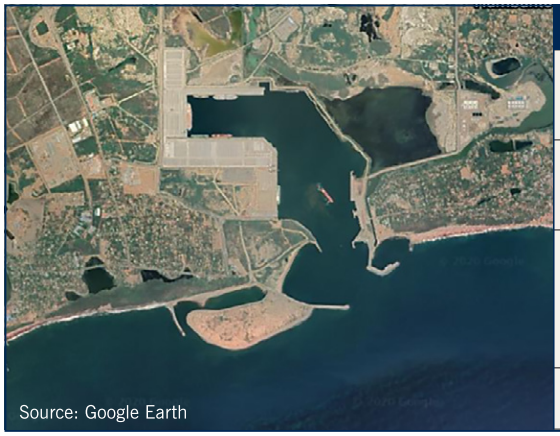
Both Pakistan's Gwadar Port and Sri Lanka's Hambantota Port are situated along China's maritime lifeline stretching through the Indian Ocean to the Middle East. Gwadar sits at the mouth of the Persian Gulf and Hambantota is located on one of the world's busiest shipping routes in the Indian Ocean. Myanmar's Kyaukphyu Port and Cambodia's Koh Kong Port are in close proximity to the Malacca Straits, a critical maritime chokepoint and security concern for China. All four meet the strategic strongpoint criteria of geostrategic importance.

CPEC has been plagued by instances of terrorism, including the 2017 attack by the Balochistan Liberation Army near Gwadar that claimed the lives of 10 Chinese workers.[106] Thus, a strategic strongpoint at Gwadar could have value in combatting terrorism threatening BRI projects in Pakistan and Central Asia and help expand the PLA's overseas operational capabilities. According to the *South China Morning Post*, Chinese military insiders have raised the possibility that People's Liberation Army Navy Marine Corps (PLAMC) units may someday be stationed there and indicate that Gwadar, which is already used by the Pakistani Navy, is now or will soon be able to accommodate a substantial number of PLAN ships, which would increase the presence of the navy in the region's waters.[107]

Source: Google Earth

PAKISTAN'S GWADAR PORT	
GEOSTRATEGIC LOCATION	• Situated along SLOC • Proximity to BRI projects in Middle East, South and Central Asia • Combat terrorism
OWNERSHIP	• China Overseas Port Holdings holds a 40-year lease of the Port
DUAL-USE FACILITIES	• Shekou Model, includes bunkering, logistics facilities, and oil processing • Port is now or will soon be able to accommodate range of PLAN vessels
DEBT TO CHINA	• 7 percent of GDP

The Sri Lankan government has repeatedly stated that the Hambantota Port development agreement rules out its use by the PLA. However, Sri Lankan politics has swung between hard and soft policies toward China, and the country's precarious financial position may make it difficult to say "no" to China at some point. Should tensions worsen between China and India, a strategic strongpoint at Hambantota constitutes an additional problem for Indian military planners. It would help Beijing secure its own energy security in the Bay of Bengal and provide a critical logistics point for the PLA in the Indian Ocean. The port's existing berthing spaces already can accommodate PLAN surface combatants, including Corvette-class vessels. However, the PLAN can also simply benefit from this port for indirect commercial replenishment, where Chinese vessels would refuel and resupply the ships at sea.[108]


Source: Google Earth

SRI LANKA'S HAMBANTOTA PORT	
GEOSTRATEGIC LOCATION	• Situated along SLOC in the Indian Ocean
OWNERSHIP	• CMPort holds a 70 percent stake and 99-year lease
DUAL-USE FACILITIES	• Shekou Model, includes bunkering, and logistics and refueling facilities • Port is now or will soon be able to accommodate range of PLAN vessels
DEBT TO CHINA	• 9.5 percent of GDP

The Malacca Strait is the principal conduit from East Asia to the Indian Ocean. The two key BRI ports nearby are Kyaukphyu Port, on the Bay of Bengal, and Koh Kong Port, on the Gulf of Thailand. The development of strategic strongpoints on either side of the Malacca Strait would significantly bolster the PLA's capacity to safeguard this critical chokepoint. Kyaukphyu is strategically significant for another reason as well: China's $1.5 billion oil and natural gas pipelines run from there to Yunnan province, carrying an anticipated 6 percent of China's oil imports.[109] This allows China to avoid the "Malacca Dilemma" to some degree by bypassing the strait rather than defending it. Since Myanmar's constitution expressly forbids the deployment of foreign troops within its territory and the country zealously guards its sovereignty, Kyaukphyu seems an unlikely candidate for an actual Chinese military base. However, the PLAN already conducts port calls in Myanmar, so Kyaukphyu could easily serve as a direct commercial replenishment and resupply stop – a valuable logistics support point in the Indian Ocean.[110]

Source: Google Earth

MYANMAR'S KYAUKPHYU PORT	
GEOSTRATEGIC LOCATION	• Situated in proximity to Malacca Strait Maritime Chokepoint • Access to the Indian Ocean and Bay of Bengal
OWNERSHIP	• CITIC holds a 70 percent stake and 50-year lease
DUAL-USE FACILITIES	• Port is now or will soon be able to accommodate range of PLAN vessels
DEBT TO CHINA	• 40 percent of GDP

Ream Naval Base is a Cambodian military facility on the Gulf of Thailand. The *Wall Street Journal* in 2019 reported that China and Cambodia had reached a secret agreement allowing the PLA to use the Ream Naval Base for 30 years.[111] Both governments denied the report, but two nearby Chinese-built projects – an airport in Dara Sakor and the deep-water port at Koh Kong – bear many hallmarks of military utility. The Dara Sakor airport features a two-mile-long runway – the same length as airstrips on China's reclaimed outposts in the South China Sea, but far longer than required for civilian cargo planes.[112] The runways also appear to be constructed with structures that allow for quick takeoffs and landings.[113] The design of the Koh Kong New Port allows it to host Chinese destroyers.[114] PLA access to Ream Naval Base, which can already accommodate and repair smaller PLAN surface combatant ships

plus a strategic strongpoint at Koh Kong Port/Dara Sakor could be combined with China's facilities in the Spratlys and Paracels to essentially create a military perimeter around the South China Sea. At a minimum, dual-use facilities in Cambodia could expand the PLA's airborne and maritime capabilities to the detriment of U.S. and neighboring militaries.[115]

Source: Google Earth

CAMBODIA'S KOH KONG PORT / DARA SAKOR RESORT	
GEOSTRATEGIC LOCATION	• Situated in proximity to Malacca Strait Maritime Chokepoint
OWNERSHIP	• Union Development Group holds a 70 percent stake and 99-year lease
DUAL-USE FACILITIES	• Shekou Model, includes bunkering, and logistics and refueling facilities • Design is slated to accommodate Chinese destroyers • Dara Sakor airport could accommodate Chinese military aircraft
DEBT TO CHINA	• 22.4 percent of GDP

Other attributes of Chinese overseas strategic strongpoints include operational control of the port and its integration in the Shekou port-parks-city model with connecting and complementary infrastructure. The former enables the Chinese terminal operator to service both commercial and PLAN ships with a wide range of bunkering, warehousing, and other services. The latter ensures a robust support structure with relevant services and typically constitutes an economic stake in the host country that generates influence or leverage.

In the case of Gwadar, a Chinese SOE signed a 40-year lease with the Pakistani government in 2017 to become the port's sole operator.[116] The port is embedded in the Gwadar Port Free Zone, a $250 million, 25-acre industrial park with warehousing, oil processing, and logistics facilities.[117] In the case of the Hambantota Port in Sri Lanka, a Chinese company was able to acquire a 70% stake and a 99-year lease, giving it significant operational control over port management.[118] The multipurpose deep-water port was also designed on the Shekou Model, with bunkering, container handling, Ro-Ro, and land set aside for a free trade zone.[119]

Koh Kong Port and the Dara Sakor resort are both part of a massive BRI development project labeled the "Cambodia-China Investment Development Zone" – described in a 2017 Chinese government yearbook as "the biggest project of BRI so far."[120] Consisting of a 175-square-mile coastal property leased to a Chinese development group for 99 years, the project includes manufacturing and recreational facilities, logistics infrastructure, medical centers, as well as the container port and the isolated airport capable of accommodating China's largest military aircraft.[121] Next door in Myanmar, the deep-sea Kyaukphyu Port project was designed to include a special economic zone and other related infrastructure. Following the change of government in Myanmar, the project was radically downsized in 2018, although the Chinese SOE retained a 70 percent equity stake and a 50-year lease with an option to renew.[122] The government of Myanmar was able to revise the project to postpone the SEZ elements until the port proved its viability in a first phase.[123]

For China to be able to use a foreign port facility to host a military vessel or support an operation would naturally require the consent of the host country government. China enjoys substantial leverage, especially economic leverage, with these four nations, all of which are heavily indebted to China. Myanmar and Cambodia are two of the low-income countries with the largest debt to China – in the neighborhood of 40 percent and 20 percent of GDP, respectively.[124] Sri Lanka's and Pakistan's debt to China represents a smaller share – approximately 9.5 percent and 7 percent of GDP, respectively – but both countries have been forced to seek debt extensions, relief, or new loans. In addition to this financial clout, China's array of incentives and levers with political leaders and elites might open up the possibility of some form of PLA presence.

That presence, should it occur, seems unlikely to take the form of large, heavily defended bases. At this stage, it would be a mistake to regard China's strategic strongpoints as precursors to Yokosuka or Subic Bay–style mega-bases following the U.S. model. As discussed, China has a long history of vowing never to set up foreign military bases – part of the reason Beijing insists on calling the Djibouti base a "logistics facility."[125] China has no genuine military alliances, whereas the United States has more than 60 agreements with allies for mutual defense in wartime and agreements with others providing for permanent facilities and/or deployment of military, support staff, and in some cases their families.[126] China so far lacks standing agreements for military stationing or use – with the notable exception of Djibouti and perhaps an unacknowledged deal with Tajikistan. And China seems unlikely to try to deploy the defensive weaponry necessary to protect overseas facilities from attack for a variety of reasons, particularly since that would undercut the projects' commercial interests as well as the claimed benign image of the BRI brand. Additionally, not only would China require a much larger navy to support this endeavor, it does not make strategic sense for China to deploy the bulk of its forces so far away from the mainland as would leave it vulnerable to attack from other potential adversaries.[127]

At this stage, it would be a mistake to regard China's "strategic strongpoints" as precursors to Yokosuka or Subic Bay-style mega-bases following the U.S. model.

The String of Pearls hypothesis, popularized initially by Indian security analysts, held that China would develop a network of primarily military facilities along the Indian Ocean periphery between China and Africa from which it could safeguard its supply chains and support combat and other military operations. This has long been seen in New Delhi as a means for China to "encircle" India and potentially dominate the Indian Ocean region. But the major strategic strongpoints analyzed in this report serve as platforms for China to project multiple forms of national power. They are designed more as hybrid commercial and military logistics support points than as an array of traditional military bases. They might serve a modest deterrent function to Chinese adversaries in some circumstances. But rather than becoming military bases from which to deploy troops and conduct actual combat operations, these facilities seem better suited to serve as replenishment and resupply points for PLA troops deployed at sea, to expedite the PLAN's ability to intervene in the Indian Ocean, and to support a variety of noncombat operations.[128]

The PLA Logistics Support Base in Djibouti, while it emerged from China's deployment in (or at least alongside) the multinational anti-piracy operations off Somalia, was established only after significant BRI and other commercial investment in the country, including commercial ports, water pipelines, and a train line to neighboring Ethiopia. This development of commercial ties and infrastructure

Source: Dutton, Kardon, and. Kennedy, "China Maritime Report No. 6."

paved the way for China's first overseas military base to come to fruition.[129] After a series of major development deals was reached, Djibouti's government signed a Security and Defense Partnership Agreement that granted access to the PLA. Negotiations for the support base began soon after. While it was clear from the outset that the facility was intended to support the PLAN task force, Chinese spokesmen went to great pains to insist that Beijing had "no intention of turning the logistics center into a military foothold."[130] And yet, it has reportedly emerged as a heavily fortified military base with multiple hangars for aircraft and underground bunkers outfitted with cyber and electronic warfare facilities.[131]

This progression is even more vivid in China's construction of outposts in the Spratly Islands of the South China Sea. After clandestine reclamation activities generated an international outcry, China flatly denied any possible military motives, insisting that the development of these artificial islands was for humanitarian purposes such as shelter for fishermen in bad weather. One of the authors of this report was sitting in the front row when President Xi Jinping famously declared at a Rose Garden press conference with Barack Obama that China had "no intention to militarize the islands" in the Spratlys.[132] This was followed by the construction of military-grade airfields, hangars, and buildings, which Beijing insisted were for commercial use. When missile emplacements and other decidedly military features emerged, Beijing argued that they were purely defensive in nature.[133]

VII. PIECING TOGETHER THE PUZZLE

AS WE HAVE SHOWN, A STRATEGIC STRONGPOINT IS FAR MORE THAN JUST A PORT THAT CAN SERVICE CHINESE SHIPS. It integrates a wide range of features and attributes, creating a mini-ecosystem that supports a variety of commercial, strategic, military, and political objectives. Similarly, but on a larger scale, the BRI is far more than just a portfolio of infrastructure projects. BRI – in combination with Chinese technology exports and standard setting, financial and economic ties, and burgeoning military diplomacy – serves a variety of Chinese power-projection purposes. The increasing scale and diversity of the levers of influence that accrue from the BRI network enable Beijing to strengthen its economic and political powers of persuasion if not compulsion. This allows China to operate in a more compliant environment and serves to disadvantage its rivals, including the United States.

Philippines President Rodrigo Duterte, Myanmar State Councilor Aung San Suu Kyi, and Pakistani Prime Minister Imran Khan arrive for the opening ceremony of the Belt and Road Forum for International Cooperation April 26, 2019 in Beijing, China, How Hwee Young-Pool/Getty Images, 2019

Beijing has used the lure of the BRI and other investments to bring numerous governments closer into its orbit. The CPEC connecting Xinjiang province to Gwadar in Pakistan represents investments upward of $40 billion, equivalent to roughly 20 percent of the country's nominal GDP.[134] During a state visit to Myanmar in January 2020, President Xi pushed ahead with plans for the China Myanmar Economic Corridor (CMEC), an array of projects totaling more than $20 billion.[135] In Cambodia, combined BRI-related investment is estimated at more than $104 billion, including the Sihanoukville Special Economic Zone, a $610 million development involving more than 100 enterprises from China and expected to create more than 20,000 local jobs.[136] Cambodia today has incorporated BRI projects into its national development strategy on the expectation of economic and employment benefits. Yet more than 90 percent of the businesses in Sihanoukville are Chinese owned, and nearly 80,000 Chinese nationals live there.[137]

Beijing has also used loans, aid, trade, and less respectable means to give it a strong foothold throughout the Indo-Pacific. China has undertaken to finance these large-scale BRI infrastructure projects largely through loans at what often appear to host governments to be favorable rates. Despite being a member of multilateral financial institutions, and despite having founded the Asian Infrastructure Investment Bank, Chinese lending activities seldom meet international standards on debt sustainability and the terms of the loans are frequently not made public. As documented in a previous ASPI report, *Navigating the Belt and Road Initiative*, many of the BRI infrastructure projects were not commercially or financially viable to begin with, while others were scaled far beyond the actual needs of the host nation. As a result, and particularly in cases where the return on investment from the project proves to be insufficient to service the loans, many countries have incurred burdensome debts to China and its financial institutions.[138]

Sri Lanka's Hambantota Port provides one of the best-known examples of an unsustainable debt burden. In December 2017, Sri Lanka handed the port to China via a 99-year lease and reportedly with 70 percent equity in the project due to its inability to service debts of more than $8 billion to Chinese firms.[139] While the debt-for-equity swap arrangement alleged in the Hambantota case is so far unique, China uses a variety of mechanisms to deal with borrowers that are unable to repay their debts. Prior to the outbreak of COVID-19, numerous BRI project countries throughout the Indo-Pacific were at risk of debt distress as a result of borrowing from China. Not surprisingly, these include coastal nations with potential strategic strongholds including Djibouti, Pakistan, and the Maldives.[140] As a consequence of COVID-19 and its aftereffects, the financial situation has worsened considerably. China has joined in some multilateral debt-deferral commitments for low-income countries and is negotiating various forms of loan forgiveness, restructuring, or refinancing with others. However, China later qualified its pledge to exclude loans made by the Export-Import Bank of China, which has financed more than 1,800 BRI projects in dozens of countries.[141] Even when China may agree to renegotiate terms of a loan, it would be naïve to imagine that Beijing would forgo the chance to utilize those debts as leverage to further its broader strategic and military objectives. In potentially negotiating future basing arrangements for the PLA or augmenting existing infrastructure with further dual-use capabilities, Beijing could pull on this lever to extract desired concessions from host countries.

Muscle-flexing and leverage alone may not be sufficient to create a sustainable environment for a Chinese "strategic strongpoint" abroad.

Beijing has more direct financial tools than infrastructure loans and investment for "elite capture" – extending its influence and cultivating power holders. Chinese state actors and surrogates have funneled gifts and donations to central and local government officials in BRI host states. Bribes obviously can be difficult to document since both parties have an interest in concealment, although there are numerous credible reports of direct cash payments to leaders or their political parties.[142] In Africa, China's frequent "gifting" of lavish residences, office buildings, or sports stadiums to heads of state has given rise to the term "palace diplomacy."[143] Many BRI countries score low on major global corruption indices, and Cambodia is one of the worst. Beijing provided Hun Sen with $600 million for support in the 2018 elections followed by an unrestricted $100 million direct grant.[144]

A leading Chinese SOE, China Communications Construction Company (CCCC), which was banned by the World Bank from engaging in any project it financed over fraudulent practices in the Philippines, in 2016 was revealed to be part of a conspiracy to inflate the contract for the East Coast Rail Link to help former Malaysia Prime Minister Najib Razak cover massive debts incurred in the 1MDB scandal.[145] Similarly, China Harbor, a subsidiary of CCCC, was accused of channeling millions into former-President Mahinda Rajapaksa's 2015 reelection campaign.[146] The Maldives finance minister revealed that an investigation of the previous government's kickback arrangements from deals with China reflected "willful corruption" on a massive scale.[147] While Beijing has pledged to clean up the BRI and has expanded the scope of the Central Commission for Discipline Inspection to monitor the activities of Chinese companies operating abroad,[148] China has yet to bring up charges against Chinese companies or citizens involved in foreign corruption.[149]

Trade, aid, tourism, business presence, and increasing investment all contribute to strengthen Chinese influence. China is the largest or second-largest trading partner of virtually all BRI countries

in the Indo-Pacific. Regional supply chains are closely linked to China. In the pre-COVID era, China became by far the major source of tourists, many of whom spend freely on luxury items. China has also become a major source of foreign direct investment (FDI) – it is now the largest foreign investor in BRI countries including Cambodia, Thailand, Pakistan, Sri Lanka, and Bangladesh.[150]

Regional Comprehensive Economic Partnership (RCEP) Intersessional Meeting in Beijing, China on August 3, 2019, Department of Foreign Affairs, Australia, Flickr, August 9, 2019.

This is not merely implicit leverage. China has unmistakably demonstrated that it is willing to "turn off the tap" of lucrative investments, tourists, or trade should partner states step out of line and offend Beijing. China halted shipments of fruit from the Philippines in response to Manila's legal action over the South China Sea in 2012.[151] Beijing punished the Lotte Group and suspended group tours in retaliation for South Korea installing the U.S. THAAD weapons system against its wishes.[152] Following Australia's calls for an international inquiry into the source and spread of COVID-19, China's ambassador to Australia threatened that Chinese consumers would boycott Australian beef, universities, wine, and tourism.[153] Chinese officials have been unapologetic about threatening commercial and economic damage to countries that go against Beijing's wishes.[154]

It may well be that Chinese leaders subscribe to a "better-to-be-feared-than-loved" principle in foreign affairs. Yet, muscle flexing and leverage alone may not be sufficient to create a sustainable environment for a Chinese strategic strongpoint abroad, let alone for a full-fledged military base, if that is in Beijing's playbook. Thus, the leverage Beijing acquires through the BRI, or trade, or the other tools described earlier needs to be augmented by other types of activities to create more favorable conditions for the future expansion of PLA operations. One long-standing technique has been high-level diplomacy, particularly lavish special treatment of visiting foreign leaders and delegations. This aims at Beijing's preferred target, the elites, although it may be less effective in generating positive public attitudes toward China in that country. Similarly, Chinese diplomats have become more visible, outspoken, and often more forceful abroad. This frequently aggressive posture and "Wolf Warrior" syndrome in fact undermines Chinese interests, as it has been so badly received by governments and publics overseas.

China's COVID-19 "facemask diplomacy" represents a deliberate exercise in soft power. While it backfired in some places, it is noteworthy that much of the aid was directed to BRI countries and that Chinese state media branded it as a "new turning point" in building the "Health Silk Road."[155] Beijing sent planes filled with thousands of test kits and hundreds of thousands of facemasks to major cities throughout Pakistan.[156] Tens or in some cases hundreds of thousands of test kits and personal protective equipment items were sent to the Philippines, Cambodia, and Myanmar, in some cases along with a medical team.[157] China agreed to extend $500 million in financial assistance to Sri Lanka along with donated masks and test kits.[158] And while Chinese requests for public praise as a quid pro quo for humanitarian donations backfired in some places, government officials in these countries were effusive in their thanks.[159]

Soliciting praise from foreign sources is a small facet of the expanded use of overseas propaganda and information operations to "tell China's story" to publics in the Indo-Pacific and beyond. Chinese state-owned media conducts the lion's share of the effort to reshape global public opinion and dispel the "China threat" perception. In 2018, China assembled journalists from BRI countries at a forum to set rules for a "Belt and Road News Alliance" of their media companies.[160] The following year Beijing launched the "Belt and Road News Network," run by the *People's Daily*, to disseminate favorable content, host all-expenses-paid workshops, and serve as a centralized source of information on BRI. The network predictably frames the BRI and China in a positive light and has member media outlets in more than 26 countries. Xinhua, the government-run news agency, has entered into cooperative agreements with counterpart agencies in some BRI countries, supplying them with local-language news and other programming; the Thai News Network, for example, broadcasts Xinhua's daily China Report. CGTN and CCTV broadcast in English and other languages along the Maritime Silk Road, including in Sri Lanka, Pakistan, Thailand, Indonesia, and the Philippines. And numerous Chinese state-run media use Facebook accounts to reach millions of followers throughout the Indo-Pacific.[161] Other strategies employed by Beijing to stem negative coverage include purchasing advertising space and offering junkets to editors and journalists, as well as to local and national officials.[162]

Taking a page directly from the Pentagon's military diplomacy playbook, the PLA has stepped up combined exercises, training, and exchanges.

The PLA itself has an important role to play in building China's image as a powerful but peaceful rising power and in desensitizing countries along important sea routes to increased Chinese military presence and operations. Since 2002, the PLA has been participating in an increasing number of HADR operations throughout the Indo-Pacific, which has the added benefit of boosting the PLA's operational proficiency. In the past decade, China has conducted HADR operations in Southeast Asia as well as in and around the Indian Ocean, including missions in Pakistan and in the Maldives.[163] The PLA has also used the deployment of its Peace Ark hospital ship to burnish its image in the region.

The most prominent PLA overseas operation has been its participation since 2008 in the anti-piracy operations off the Horn of Africa in the Gulf of Aden. The overall mission had been authorized by the United Nations Security Council (UNSC) resolution in June 2008, and China was the last permanent member of the Security Council to commit forces to the Gulf. This mission marked the first time that the PLAN was operationally deployed outside of the Asia-Pacific region.[164] Although China deployed the ETF under the UNSC resolution, it did so unilaterally and was not part of the existing multinational coalitions conducting operations off the Horn of Africa. As of 2019, the PLA has been involved in 32 missions to the Gulf of Aden and has deployed an estimated 26,000 personnel there since it began the operations a decade earlier.[165]

Not surprisingly, these missions have served multiple objectives. Beijing's decision to deploy an ETF came in the wake of repeated attacks against Chinese cargo ships by Somali pirates, so clearly the protection of Chinese shipping interests was a factor. Beijing's concern for image building as a responsible stakeholder is reflected in the care it took to highlight both the international legal basis for the operation under the United Nations Convention on the Law of the Sea and UNSC resolutions but also in first seeking an explicit invitation from the government of Somalia.[166] Beijing has used these operations to project what Naval War College scholars have termed "Blue Soft Power" and has been marketed by the Chinese govern-

Chinese warship FFG Xiangtan from the People's Liberation Army Navy 23rd Escort Task Group is sent off by Myanmar navy troops and civilians during a departure ceremony at Thilawa port in the outskirts of Yangon on October 4, 2016, ROMEO GACAD/AFP via Getty Images, October 4, 2016

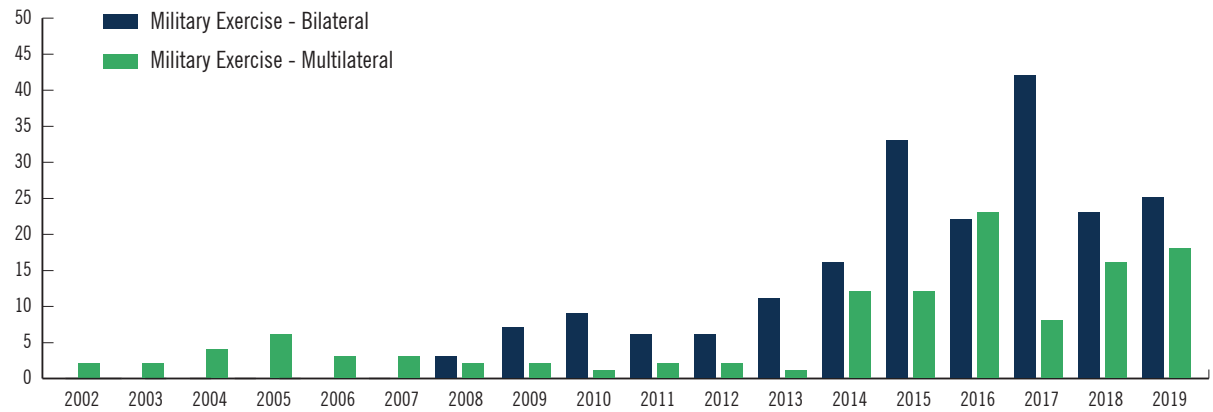
ment as being the PLA's contribution to the welfare of the international community.[167]

The Gulf of Aden deployments also served a clear military purpose: contributing to the development of a Chinese blue navy, enhancing its power projection capability, and allowing the PLAN to acquire vital operational experience. A clear indicator of this is that since 2013, Beijing has deployed submarines and other newly commissioned units as part of the Gulf of Aden ETF, which acts as cover for the PLAN to gain further experience and test its power-projection capabilities.[168] These vessels supported the evacuation of Chinese citizens from Libya and Yemen and assisted in the disposal of Syrian chemical weapons. The deployments expanded the PLAN's international exposure – including English-language experience, navy-to-navy meetings and dialogues, and combined training with foreign navies. In the words of retired Rear Admiral Mike McDevitt, "once the PLAN began to conduct anti-piracy operations, the entire nature of its approach to international naval engagement changed appreciably."[169]

Perhaps the most significant byproduct of the anti-piracy deployments has been the dramatic increase in PLAN port visits during and en route to or from service in the Gulf of Aden. Port calls by ETF ships are augmented by visits by other PLAN vessels, including the Peace Ark naval hospital ship. In 2017, the PLA sent a One Belt One Road Navy Task Force through the South China Sea and Indian Ocean, stopping in Cambodia, Indonesia, Myanmar, Pakistan, Sri Lanka, the Maldives, Djibouti, Saudi Arabia, and a dozen other countries over the course of six months. Since then, PLAN ships made multiple repeat visits for port calls, joint exercises, or international exhibitions.[170]

Taking a page directly from the U.S. Pentagon's military diplomacy playbook, the PLA has stepped up combined exercises, training, and exchanges. Combined exercises, which may range from simulated

TOTAL PLA INTERNATIONAL MILITARY EXERCISES BY TYPE, 2002-2019



Source: Center for the Study of Chinese Military Affairs, *Chinese Military Diplomacy Database* version 3.0 (Washington, D.C: National Defense University, June 22, 2020)

combat to field medicine, can foster valuable relationships, enable the acquisition of new skills, provide intelligence about foreign militaries, facilitate interoperability, as well as intimidating other militaries by displaying capabilities. PLA joint exercises with foreign militaries increased eightfold between 2013 and 2016. These now include multilateral exercises under the auspices of the Shanghai Cooperation Organization (SCO) and, in 2018, the first joint naval exercise between China and the Association of Southeast Asian Nations (ASEAN) – a remarkable milestone for China's military diplomacy given its assertiveness in the South China Sea.

An increasingly robust military exchange program that has strengthened PLA ties with other militaries supplements the growing number of joint exercises. This is one of the many ways that the Chinese have adapted the U.S. playbook and practices in strengthening military-to-military ties. As of 2016, more than 4,000 military personnel from more than 130 countries have studied in Chinese military educational institutions.[173] These educational exchanges aim to strengthen military-to-military relations through forging relationships with foreign officers and to improve perceptions of China by foreign officers, a key segment of governing elites in the developing world.[174] Since 2013, China has held at least 12 bilateral military exercises across the differing services with Pakistan, and its annual Golden Dragon Exercise with Cambodia has grown from a few hundred personnel in 2016 to some 3,000 in 2020, when it was held despite the COVID-19 pandemic. In 2015, China and Sri Lanka launched their annual Silk Route Exercise, and in 2017, the PLA held its first joint exercise with the Tatmadaw – Myanmar's military.[175]

China's Ambassador to the Philippines Zhao Jinghua (R) shakes hands with Philippine Defence Secretary Delfin Lorenzana (C) as Philippine military chief Eduardo Ano applauds during a ceremony for weapons donated by the Chinese government at the military headquarters in Manila on October 5, 2017, TED ALJIBE/AFP via Getty Images, October 5, 2017.

As an adjunct to the PLA's growing international presence, China is emerging as a leading actor in global arms sales. While trailing the United States, Russia, Germany, and France in the arms trade space, China's arms exports have grown by 275 percent since 2000.[176] Major BRI countries are a particular focus for Chinese arms exports. Pakistan, with which China has long had a close political and security relationship, unsurprisingly tops the list. Between 2008 and 2018, China arms supplies to Pakistan were worth more than $6.4 billion; in 2019, Pakistan purchased eight submarines from China totaling $4 billion.[177] Signaling the increasingly close relationship between the Chinese and Pakistani militaries, in 2018, China granted Pakistan, the only country so far, access to the Beidou satellite system's military service, which would provide Pakistan with increasing guidance capabilities for its missiles, vessels, and aircrafts.[178] Bangladesh and Myanmar have emerged as top recipients of Chinese arms,[179] and China has become the largest arms supplier to both Cambodia[180] and Sri Lanka.[181] In 2019, the Cambodian prime minister purchased an additional $40 million in arms from China at "friendship prices" on top of existing contracts worth $290 million.[182] Since 2013, Myanmar procured roughly $720 million worth of arms from China, including aircraft, unmanned aerial vehicles, vessels, and armored vehicles.[183] To shore up defense ties and goodwill in 2019, China gifted Sri Lanka with a P-625 naval frigate[184] along with $14 million in Chinese-made counterinsurgency equipment and police vehicles.[185] The military attaché at the Chinese Embassy in

Colombo was explicit in saying that "China wishes to boost the development of the Belt and Road Initiative to strengthen the pragmatic cooperation between the two countries and the two militaries."[186]

As indicated in the previous section, the Digital Silk Road and Belt and Road Space Information Corridor allow China to increase its technological, military, and political influence. President Xi emphasized in 2018 that China should "strengthen the military-civil integration in the field of network information, and actively participate in cyberspace."[187] The provision of critical technology and digital structures in BRI countries creates leverage, improves China's C4ISR capabilities, and increases economic and technological dependence on China while reducing reliance on Western-based networks and technology.

The provision of critical technology and digital structures in BRI countries creates leverage, improves China's collection capabilities, and increases dependence on China while reducing reliance on Western-based networks and technology.

While Pakistan is the first country permitted to use the Beidou Satellite Network's military functionality, more than 30 BRI states are linked to the Beidou system in civilian sectors and will grow increasingly reliant on Beijing for access.[188] And as China continues to develop 5G networks in BRI states and link them through the Beidou network, Beijing accrues further influence and undercuts American commercial, diplomatic, and strategic interests. In tandem with its export of digital products along the BRI, China is exporting a model for digital standards and internet governance built around state control and cyber sovereignty. In developing Smart Cities with advanced security and surveillance technology, whether or not they are linked to strategic strongpoints, China is providing host governments with tools for surveillance and social control of their citizens. It is also providing systems and technology that can collect "big data" and give Chinese intelligence services direct access to sensitive information.

All Chinese citizens and companies, including those involved in overseas BRI projects, are obligated to cooperate with Chinese intelligence agencies under a 2017 law.[189] So the Chinese company building fiber optic cable networks or data centers can be directed to insert the capability to monitor or interrupt data traffic.[190] Something similar occurred when China built and equipped the new African Union headquarters in Addis Ababa, Ethiopia with backdoors that allowed it access to the organization's internal communications.[191]

The development of Smart Ports along the Maritime Silk Road will help expand and strengthen China's C4ISR capabilities. Through the centralization of data and increased automation, China would be able to obtain real-time information to track the movement of goods and ships along global supply chains.[192] With Chinese SOEs and firms operating ports throughout the Indo-Pacific, Beijing would be able to gain intelligence on U.S. military tactics and assets, including the combat readiness of U.S. vessels, as well as on U.S. procedures for repairing, resupplying, and servicing ships. This information would be valuable in both countering the United States and improving the PLAN's own capabilities. During the negotiations for the Hambantota Port, Chinese negotiators explicitly pushed intelligence sharing as part of the deal. Former Sri Lankan Ambassador to China and Foreign Secretary Nihal Rodrigo said that Beijing had made clear that Sri Lankan officials were expected to share information about what ships stopped in Hambantota.[193]

VIII. IMPLICATIONS

CHINA IS CONSTRUCTING MARITIME, CONTINENTAL, DIGITAL, SPACE, HEALTH, AND VARIOUS OTHER BELTS AND ROADS. It is developing Smart Cities and 5G networks, increasing trade and investment ties, expanding its commercial presence, activating patriotic appeals to Chinese diaspora communities, undertaking new military diplomacy, boosting traditional civilian diplomacy, expanding its media reach, and erecting new infrastructure projects under the BRI banner. Across multiple domains, Beijing is amassing levers of influence to be able to operate in a more favorable strategic environment. Combined with China's systematic push to expand its influence in multilateral rule-setting institutions and in some cases to create new ones, these roads seem to lead toward a regional or perhaps global ecosystem that would disadvantage the United States and other of China's competitors.

Chinese strategic strongpoints, such as the four examined in this report, are clearly not overseas military bases akin to U.S. overseas installations. However, they do offer China militarily significant benefits that strengthen and expand its capacity to project power. First and foremost, they will significantly increase the military's logistics and support network. As a senior Chinese officer in Djibouti put it, China is shifting "away from a focus on accompanying replenishment ships … to a new model focused on overseas base support supplemented by other ports."[194] A growing network of Chinese-operated ports sets the stage for the PLAN's transition to a blue water, far-seas force. And it may open the door to further deployments of PLA troops overseas as the network solidifies.

Across multiple domains, Beijing is amassing levers of influence to be able to operate in a more favorable strategic environment.

While they are not military bases, the strategic strongpoints located on either side of the Malacca Straits – Myanmar's Kyaukphyu Port and Cambodia's Koh Kong Port – would provide the PLA with greater capabilities to address its Malacca Dilemma. Bolstered by existing military platforms in the South China Sea, these two ports better position Beijing to challenge transiting military vessels.[195] Strategic strongpoints in the Indian Ocean and South Asia give Beijing broader capabilities to protect vital SLOCs and support counterterrorism or other operations to protect its overseas interests. These and other ports operated by Chinese companies serve as useful platforms to collect intelligence on the U.S. Navy and allied military assets. And their utility as C4ISR platforms will increase with the deployment of Digital Silk Road technology, the Beidou Satellite Network, and the development of Smart Ports.

In China's integrated strategy, these platforms not only link its military, intelligence, and digital missions with key commercial and political functions but also carry important symbolic impact. The establishment of the Logistics Support Facility in Djibouti served to signal Beijing's abiding interest in Africa – and to demonstrate Beijing's willingness to protect its investments. The same logic applies in South and Southeast Asia. For Koh Kong Port in Cambodia to evolve along the lines of Djibouti to become more explicitly a support hub for the PLAN would be an intimidating signal to Southeast Asia that "resistance is futile."

All of these attributes give China some degree of leverage, particularly over BRI project host states. Growing arms sales and the appetite for Chinese technology will only augment its influence. Given

China's strategic aspirations and the increasingly hostile character of U.S.-China competition, it stands to reason that Beijing may seek to use these levers in an attempt to weaken U.S. leadership, the alliance structure, diplomatic standing, and other states' willingness to support the United States. And in light of geography and the U.S. military's reliance on access throughout the Indo-Pacific, a growing reluctance by regional states to support or even permit transits by American assets would have a detrimental effect on U.S. security interests.

China's influence activities have already begun to have a measurable impact on U.S. defense interests and relationships, particularly in Southeast Asia. In January 2017, Cambodia notified the United States that it would be suspending Angkor Sentinel, the annual bilateral military exercise. Later that year, it postponed indefinitely the U.S. Navy Seabees' humanitarian mission. These and other acts of disengagement from the United States and its allies came on the heels of the largest-ever Sino-Cambodian military joint exercise, as well as a visit by Xi Jinping, who delivered $89 million in debt forgiveness, $238 million in soft loans, $15 million in military aid, and later a $150 million grant for a new stadium in the capital.[196]

An even sharper signal was Cambodia's decision in June 2019 to terminate plans for the U.S. Navy to refurbish a facility it had previously built at Ream Naval Base. This sparked concern that Cambodia might instead seek to authorize a Chinese presence at the base.[197] Later that month, reports emerged claiming that China and Cambodia had signed a secret agreement that would allow for the PLA to use the base for 30 years for military personnel, troops, vessels, and weapons storage.[198] Despite Cambodian government denials, suspicions were raised even further by high-level PLA delegation visits and the crash of a Chinese surveillance drone in the neighboring province.[199]

Philippine President Rodrigo Duterte (C) returns a salute from a Chinese naval officer (L) as Philippine Defence Secretary Delfin Lorenzana (R) looks on during Duterte's arrival to visit the guided missile frigate Changchun berthed at the Davao international port on May 1, 2017, MANMAN DEJETO/AFP via Getty Images, May 1, 2017.

Nearby in the Philippines, China's influence has grown significantly at the expense of the United States. Prior to Duterte assuming the presidency, the U.S.-Philippines alliance reached a high point in 2014 when the two countries signed the Enhanced Defense Cooperation Agreement, which allowed for the prepositioning of supplies and granted U.S. access to Philippine bases. However, following the election of Duterte in 2016, both bilateral trade and Chinese FDI to the Philippines began to surge. During Duterte's first state visit to China in 2016, Xi offered $24 billion in aid and development funds.[200] China has subsequently committed investments totaling roughly $45 billion.[201] While only a small percentage has been implemented to date, the promise of Chinese investment has clearly drawn political concessions from the Philippines.[202] Duterte elevated defense ties following a $500 million defense procurement loan from China in 2017. The two countries held their first-ever naval exercise in 2018. PLAN ships have also stepped up their port calls in the Philippines and have visited the Davao Port in Duterte's hometown multiple times. In

the same period, U.S.-Philippines defense ties have suffered, with the cancellation of joint patrols in the South China Sea and the denial of port access for resupplies and repairs to U.S. Navy vessels undertaking freedom of navigation operations.[203]

The downward spiral culminated in Duterte's shocking announcement in early 2020 of his decision to terminate the visiting forces agreement (VFA) that permits the stationing of U.S. forces. The announcement seemed to signal a diminution of U.S. regional influence in contrast to China's growing stature. And although that cancellation has since been "suspended" (not rescinded), it represents an immense threat to U.S. defense interests. Were it to take effect, innumerable U.S. military exercises and operations would be put at risk. Should the United States lose access to the Philippines, U.S. military facilities closest to the South China Sea would be more than 1,000 miles away in Okinawa.[204] Losing access to the Philippines as a forward operating location and supply depot would cause significant operational challenges and undermine American deterrence.

U.S. relations with Thailand, a historic treaty ally, soured following the 2014 military coup. Restrictions under U.S. law limited defense cooperation until democracy was restored. As the United States scaled down its annual Cobra Gold military exercises with Thailand in 2015, the PLAAF and the Thai air force launched their first-ever joint exercise. Since then, the two militaries have held more than five bilateral exercises spanning the services and types.[205] China has also emerged as a key arms supplier for Bangkok. Following the coup, the two countries have signed 10 major arms deals, including Thailand's largest defense purchase: $1.03 billion for three submarines and 48 battle tanks.[206] Reflecting these growing defense ties, Thailand's Defense Technology Institute and China will set up a joint facility to produce Chinese weapons for the Thai army.[207]

In China's integrated strategy, these platforms not only link its military, intelligence, and digital missions with key commercial and political functions but also carry important symbolic impact.

Beijing's growing influence in Thailand raises military concerns for the United States well beyond weapons sales and joint exercises. Growing numbers of Thai military officers are being trained in China, and fewer in the United States. Thailand has enlisted Chinese help to construct submarine facilities at Sattahip Naval Base and will grant PLAN access there. Sattahip has traditionally been a U.S. Navy port of call, so a PLA presence there elevates intelligence and other risks to visiting U.S. ships.[208] Thailand's U-Tapao Airfield is an important logistics hub for U.S. forces, but instances have increased in which Bangkok denied access to the U.S. Air Force to accommodate its neighbors. One such example in 2017 was its refusal to allow humanitarian operations to assist the Rohingya in deference to the Burmese military. Will the Thai military similarly be inclined to oblige China, particularly against the backdrop of a growing reliance for arms and training? If so, the ability of the United States to respond in a crisis involving China will be significantly impaired.[209]

In Central Asia, Beijing has stepped up its engagement, recently overtaking Russia as the top source of FDI, and China's influence in the region has grown significantly over the past decade. Beijing has framed BRI investments in Central Asia, across the border from Xinjiang province, as intended to address the threat of Islamic terrorism and separatism. Chinese investments in numerous BRI projects in Tajikistan in particular have allowed its government to avoid bankruptcy as the country's debt surges.[210] Fifty-two percent of Tajikistan's foreign debt is now owed to China. While BRI projects have raised

concerns over the implications of Tajikistan's debt, more striking are the signs of China's expanding military presence in the country, including the construction of military facilities. Beijing has strengthened overall defense relations with Tajikistan, increasingly holding bilateral and multilateral military exercises and training. Beijing committed to fund and build a military training center and threw in a $19 million grant to build an officers' club.[211]

More significant is the large Chinese military facility that has been built in close proximity to Afghanistan's Wakhan Corridor. Currently staffed by the paramilitary police wing of the PLA, the facility is capable of hosting a battalion-sized force and light infantry, although Chinese officials have alternately denied its existence and claimed it was developed for training and logistics purposes.[212] In addition, a series of secret bilateral agreements in 2015–2016 provided Beijing with the rights to build or refurbish 30 to 40 guard posts on the Tajik border with Afghanistan.[213] A Tajik official acknowledged that in parts of the country, "the Chinese have taken over border control, completely … they patrol on their own."[214] The expansion of Chinese military presence in Tajikistan, and more broadly in Central Asia, serves strategic purposes well beyond the protection of vulnerable BRI installations. One such purpose is clearly counterterrorism. But another would appear to be aimed at positioning itself to take maximum advantage as the U.S. withdraws from Afghanistan.

Amphibious transport dock ship USS Denver (LPD 9) pulls in to Darwin, Australia for a port visit, U.S. Navy photo by Mass Communication Specialist 3rd Class Christopher Lindahl/Released, September 3, 2013.

Beyond the establishment of military facilities and dual-use infrastructure, Beijing's BRI investments and diplomatic outreach serve to degrade or impede U.S. power projection in the region by complicating things like port access, even in allied and partner states. China's acquisition in 2015 of a 99-year lease to operate Australia's strategically situated Darwin Port abruptly raised security concerns for Washington. Darwin hosts a rotational U.S. Marine Expeditionary Unit (MEU) for six months of joint training with Australian forces each year. The 1,700-strong MEU includes America's most capable aviation combat elements and was in line for a state-of-the-art amphibious assault ship.[215] An Australian Senate report on the deal flagged concerns that China's operational control of the port could facilitate intelligence collection on U.S. and Australian military forces stationed nearby."[216] Some military officials have expressed concern that beyond espionage, U.S. naval vessels could be subject to cyberattacks and sabotage.[217] Whether or not such attacks actually take place, China will have gained an advantage if U.S. military planners were to reconsider deployment of advanced ships and planes to Northern Australia.

Farther afield, the Shanghai International Port Group won the bid to operate Israel's Haifa Port's container terminal for 25 years beginning in 2021.[218] The port, Israel's largest, frequently hosts U.S.-Israeli naval drills and port of calls for U.S. Navy vessels. The Pentagon reportedly warned the government of Israel that the United States might have to readjust its usage of the port.[219] Chinese SOEs also operate major ports in the UAE, Oman, Saudi Arabia, and Egypt, further narrowing the low-risk options available to U.S. Navy ships in need of port facilities.[220] But beyond risks like espionage and sabotage, and

beyond ports operated by Chinese SOEs, lies the concern that traditional U.S. partners may be increasingly inclined to hedge their past high levels of support.

Singapore, a close military partner although not a treaty ally, offers a cautionary example. Changi Naval Base is an important logistics hub for the U.S. Seventh Fleet and home to an ultramodern U.S. Navy littoral combat ship. When Singapore renewed its defense agreement with the United States in September 2019, thereby allowing continued U.S. military access to Singapore's important air and naval bases, the government of Singapore did something noteworthy. During a visit to Beijing by Singapore's defense minister, the two countries signed an enhanced defense agreement that includes a visiting forces agreement and a mutual logistics support arrangement and boosts bilateral military exercises.[221] What is striking is not merely that this was the first upgrade since bilateral military relations were formally established in 2008, or that it followed a spate of incidents such as China's seizure of Singapore military vehicles following an exercise with Taiwan. The Singapore government's decision to balance an upgrade of military cooperation with Washington with a corresponding agreement with Beijing shows a degree of hedging by a U.S. security partner reflecting the inroads China is making in the wider region. Singapore officials privately acknowledge "placating" Beijing's irritation over the city-state's support for the U.S. military by offering comparable benefits to the PLA.[222]

Even long-standing mutual defense treaties are not ironclad guarantees that the U.S. military would be provided operational access to the territory of an ally in a time of crisis. That China's influence is rising in the Philippines and Thailand calls into question their willingness to provide access to U.S. forces in a crisis involving China. Hedging by American allies or security partners will create increased obstacles to the ability of the United States to effectively deploy force in the region, eroding deterrence and limiting options. Eroding America's ability to intervene in PLA operations in the Indo-Pacific is in line with Beijing's strategy. In lieu of a string of expensive overseas military bases of its own, Beijing is using its economic weight and other forms of leverage with third countries to raise the cost of providing access or support to the United States – thereby raising the cost to the United States of military operation or intervention in the Indo-Pacific.

The Arleigh Burke-class guided-missile destroyer USS Kidd (DDG 100) approaches the aircraft carrier USS Theodore Roosevelt (CVN 71) while participating in Exercise Northern Edge 2019, U.S. Navy photo by Mass Communication Specialist 1st Class Ryan J. Batchelder/Released, May 16, 2019

China has also established or co-opted regional and multilateral security organizations that exclude the United States. It uses platforms such as the SCO, the Conference on Interaction and Confidence-Building Measures, and the Xiangshan Forum to push a narrative of anachronistic U.S. alliances that undercut common security and violate sacrosanct principles of state sovereignty and political noninterference. This narrative aims to shield Beijing (and other governments) from international pressure or criticism, particularly in connection with dispute settlement as the world saw with the International Tribunal for the Law of the Sea ruling against China on the South China Sea.[223]

Since the end of World War II, the U.S. Navy has been able to operate largely unimpeded in international waters. The U.S. military has been able to deploy ships, planes, and troops to far-flung shores with minimal concern over the ability of these assets to obtain permissions and support. However, the development of Chinese strategic strongpoints and Beijing's greater overall leverage suggest that the United States is losing the level of unfettered access that it has long enjoyed. Retired Rear Admiral Mike McDevitt wrote of the Djibouti Logistics Support Facility, "U.S. authorities can no longer assume unencumbered freedom to posture U.S. naval forces off Middle East and East African hotspots if Chinese interests are involved and differ from Washington's."[224] If China's port projects in Cambodia and Myanmar continue to develop as strategic strongpoints, these nodes will over time bolster the PLA's ability to reduce or deny U.S. access to key waterways and challenge the ability of the U.S. Navy to operate in the Gulf of Thailand, the Malacca Straits, and the Bay of Bengal.

"U.S. authorities can no longer assume unencumbered freedom to posture U.S. naval forces off Middle East and East African hotspots if Chinese interests are involved and differ from Washington's."

– Rear Admiral (retired) Mike McDevitt

Perhaps even more concerning is the prospect for the United States that the Philippines, Thailand, or Singapore might balk at granting U.S. access to military bases and facilities in a time of heightened tensions between Washington and Beijing for fear of angering China. This would substantially limit operational flexibility, disrupting the U.S. Navy's logistics chain and detrimentally impacting American force readiness.[225] If the Philippines were to follow through with the threat to cancel the VFA with the United States, U.S. forces in the South China Sea would have to travel 1,000 miles or more to resupply and refuel. The risk, therefore, is that the multiple components of the BRI in tandem with other forms of Chinese engagement will create a strategic ecosystem in the Indo-Pacific that favors China and diminishes America's advantages. In particular, this ecosystem seems likely to impede potential intervention in the region, particularly in a crisis when third countries may be especially averse to taking actions that China would oppose.

It is by no means all smooth sailing for the Chinese strategy – several BRI host countries including Sri Lanka, Myanmar, and Cambodia have openly rejected the idea of a Chinese military presence in their country. Even Pakistan dismissed as propaganda the notion that Gwadar was being developed as a Chinese military base.[226] To some extent, China's creeping incrementalism reflects the barriers to expanded PLA presence – making a virtue of necessity. The PLA also faces obstacles from Chinese contractors who evade or ignore the rules on building to military standards. PLA analysts have warned that widespread failure to implement regulations on port construction impedes the ability of the PLA to utilize these infrastructure assets.[227]

IX. CONCLUSION

BEIJING'S NOMINALLY COMMERCIAL BRI INVESTMENTS, PARTICULARLY IN PORT INFRASTRUCTURE AND DIGITAL PROJECTS, DIRECTLY FACILITATE CHINA'S TRANSITION TO A STRONG MARITIME POWER AND PROVIDE THE PLA WITH STRATEGIC ASSETS TO SUPPORT ITS PRIORITIES. Despite its branding as an economic and development initiative, the BRI is in fact the embodiment of a whole-of-government effort to develop the "close coordination between military struggle and political, diplomatic, economic, cultural and legal endeavors" that Xi Jinping has called for to foster a strategic environment conducive to China's rise.[228] Integrating the civilian and military sectors is a pillar of China's defense policy strategic framework. It allows China to obtain benefits from national defense resources in peacetime and from civilian infrastructure projects in the event of conflict.[229] Given that Xi Jinping has championed the "unified military-civil system of strategic capability,"[230] it should come as little surprise that major components of BRI infrastructure, including the port-park-city model, the Digital Silk Road, and the BRI Space Information Corridor, are designed with dual-use features that bolster a range of potential military and intelligence capabilities.

Beijing's 'win-win' rhetoric about the peaceful nature of BRI notwithstanding … it is developing a network of "strategic strongpoints" that can significantly raise the costs of any U.S. military intervention and lower the willingness of BRI host governments to offer access or assistance to the U.S.

Beijing's win-win rhetoric about the peaceful and benign nature of BRI notwithstanding, a deliberate military and strategic functionality seems clearly entrenched in the initiative. But the security challenge to United States or regional interests does not lie in the risk of a String of Pearls–type chain of overseas coastal fortifications from which the PLA can wage war and that it will defend. There is little evidence so far of Beijing constructing full-blown overseas military bases on the U.S. model, but there is abundant evidence it is developing a network of strategic strongpoints that can significantly raise the costs of any U.S. military intervention and lower the willingness of BRI host governments to offer access or assistance to the United States.

This network, embedding the military within the civilian, harnesses financial, technological, trade, and development tools in service of strategic and defense goals. It directly supports PLA power projection through enhanced operational, logistics, and information network capabilities centered on BRI platforms. It aims at creating an environment conducive to China's interests and inhospitable to America's. The gains to China from BRI-related leverage come largely at the expense of the United States. They are, as a former U.S. defense official put it, "a suite of capabilities that are intended, clearly … to defeat American … power projection."[231]

China's technological exports under the Digital Silk Road and widespread adoption of the Beidou Satellite Network are important components of this "suite of capabilities." When Chinese technologies such as fiber-optic cables and 5G networks are baked into BRI packages, host states' de facto reliance on Chinese companies increases exponentially. [232] And in addition to promoting digital governance with Chinese characteristics, the spread of Chinese technology, particularly tools for surveillance and repres-

sion, favors authoritarian regimes – governments with which Washington is more likely to clash over undemocratic behavior.[233] Not only does this disadvantage the United States and its companies, it also strengthens China's ability to seize and cement advantages by setting the standards for next-generation technology. Thus far, U.S. countermeasures like the Digital Connectivity and Cybersecurity Partnership announced in 2018 with a modest $25 million budget are woefully inadequate.

The nascent trend seems to be towards an increasingly Chinese dominated political, economic, technological, and strategic ecosystem in the indo-Pacific. If there is a challenge posed by BRI for the United States, therefore, it lies not in enhanced PLA capabilities per se, but in Beijing's enhanced ability to project its sovereignty, rules, or undue influence over international space based on a unilateral assertion of "core interests." The exercise of this power will challenge the U.S.-led open, rules-based international order. Should Beijing be successful in leveraging BRI for preeminence in Asia, America's role as the guarantor of regional peace and stability would be undermined.[234]

If there is a challenge posed by BRI, it lies not in enhanced PLA capabilities per se, but in Beijing's enhanced ability to project its sovereignty, rules, or undue influence over international space based on a unilateral assertion of "core interests."

Movement toward a Sino-centric regional ecosystem represents a fundamental change in the regional balance of power between China and the United States; there have been echoes of a "sphere of influence" strategy in Xi Jinping's public statements calling for "Asia for Asians." It is implicit in his pledge to build a "new architecture of regional security cooperation that reflects Asian needs."[235] And China's creation of regional multilateral fora that exclude the United States indicates that it is laying the foundation for a more China-centric regional security and economic order. This in turn would have significant implications for the international rules-based order.

It is by no means a forgone conclusion that this nascent ecosystem underpinned by the BRI will ultimately be realized. It is true that U.S. policies and diminished diplomatic engagement in the region over the past several years have not aided America's cause. Yet Beijing confronts a range of countervailing forces that could derail its plans. The CCP is not offering a global vision that other countries seem eager to embrace. China's double-digit growth has steadily slowed and the aftereffects of the COVID-19 pandemic reduce the resources that Beijing can bring to bear. China's economic conditions are vastly different today than in the BRI's first five years, making it unclear how financially and politically feasible it will be for Beijing to pump massive capital into the initiative. BRI projects have rarely proven commercially profitable, and the global economy, ravaged by the pandemic, exacerbates this problem. Despite the drums of increasing military-civilian fusion, developers in some cases have either not followed or cut corners in port construction resulting in maritime assets that may not meet PLA standards.

Some BRI projects have been halted or scrapped, and others will languish on the drawing board as host countries retrench financially.[236] Many BRI states are unable to service their existing debts to China, presenting China with an unpalatable choice between the expensive options of debt forgiveness or restructuring at a time when China's own economy is distressed versus pressing for repayment or another form of compensation – risking criticism for "debt-trap diplomacy" and local backlash.[237] While China has gone along with a temporary G-20 moratorium on debt service payments by the world's

poorest countries, mostly in Africa, it does not have a similar policy on BRI debt. Pakistan, which has already requested relief on $30 billion in loans, is a high-risk borrower according to OECD classification. So too are other major BRI host countries such as Laos, Sri Lanka, and Bangladesh. Chinese officials, acknowledging that debt relief is not simple, have ruled it out for preferential loans made by China's Export-Import Bank, which has financed more than 1,800 BRI projects worth an estimated $149 billion.[238] Other officials have cautioned that "BRI loans are not foreign aid" and made clear that China expects to recoup its principal plus at least modest interest.[239]

It is by no means a forgone conclusion that this nascent ecosystem underpinned by the BRI will ultimately be realized. Beijing confronts a range of countervailing forces that could derail its plans.

Beijing's BRI projects have long since sparked concerns in host countries over issues ranging from corruption and land grabs to environmental damage and work rights and safety. Assertive Chinese behavior toward neighbors over territorial disputes has generated mistrust and resentment in the region. Heavy-handed Wolf Warrior diplomacy has undercut China's claim to be a benevolent and peaceful rising power. Exploitative behavior by Chinese companies in Africa has fueled resentment and, in some cases, a violent backlash against Chinese workers. It stands to reason, therefore, that a hard push by Beijing on debt repayment by cash-strapped states in a global recession caused by a pandemic that originated in China is unlikely to sit well with partner countries and could undermine both China's image and its strategy.

Criticism of the BRI emanates not only from project hosts and concerned states but also more frequently from the Chinese population itself. As China's economy suffers and its population feels the pinch from the U.S.-China trade war and the fallout from COVID-19, Chinese citizens have increasingly taken to the Internet to voice their displeasure of these loss-making grand projects.[240] Numerous Chinese academics, economists, and businesspeople have argued that the resources being dedicated to the BRI could be put to better use at home.[241]

Whether China can effectively "weaponize" the BRI by creating a Sino-centric ecosystem of trade, technology, finance, and strategic strongpoints – undermining American influence and role as a security guarantor – will be a function of Beijing's choices – and those made in Washington as well. America's ability to serve as an active and credible partner across multiple sectors and regions seems a necessary precondition for BRI target countries to resist the Chinese carrots-and-sticks strategy. It will also be a function of the ability of likeminded Indo-Pacific states including Japan, Australia, India, and ASEAN partners to contribute and provide practical alternatives to what China is offering.

X. AFTERWORD: FRAMING A U.S. RESPONSE

WHAT DOES ALL THIS MEAN FOR THE UNITED STATES? There is still abundant opportunity for the United States to compete – and out compete – China for access, influence, and credibility in the Indo-Pacific. Despite making inroads, Beijing has frequently demonstrated that its own missteps can slow down or set back its strategic momentum. China's rise has not generated unalloyed warm and fuzzy feelings toward Beijing. Polls show significant concern over its growing influence, not only among Asian neighbors but also in many parts of the world. In Southeast Asia, 72 percent of respondents viewed China as the most influential economic and political power, but more than 85 percent expressed concern about that.[242] Public protests and pushback against China in BRI countries have increased, particularly in the wake of COVID-19, despite China's vigorous attempts at facemask diplomacy.

At a bare minimum, the United States seeks to ensure that its commercial and military vessels are not denied essential services and access, and that the U.S. military maintains the ability to operate unimpeded, to make port calls, and to conduct other activities throughout the Indo-Pacific. America's resolve to "fly, sail and operate wherever international law allows," in the words of former Defense Secretary Ash Carter, depends to a large degree on the continued readiness of governments to provide support ranging from overflight permission to ship husbanding to stationing of forces agreements.[243] The reliable support and ready access that the United States has long enjoyed will be harder to obtain in a region more heavily dependent on China.

The problem presented by China's "weaponization" of the BRI is not primarily a military one, and its solution can't be primarily military either.

But the problem presented by China's weaponization of the BRI is not primarily a military one, and its solution cannot be primarily military either. No American institution is more cognizant of this fact than the U.S. military itself, whose "DIME" doctrine stipulates four major interdependent sources of national power – diplomacy, information, military, and economics. Thus diplomacy, trade and investment, technology, educational exchange, legal instruments, and the free flow of ideas and data are all vital tools in restoring and maintaining American access and influence.

Public polling and other indicators make clear a widespread desire in East and South Asia for the United States to serve as a reliable balancer and stabilizing force. But many countries in the region will adapt to or even adopt a Sino-centric arrangement if they do not perceive a consistent, coherent, credible, comprehensive, and collaborative U.S. strategy in Asia. To date, the gulf between the ambitious rhetoric of a Free and Open Indo-Pacific (FOIP) and its grossly underfunded application has been too great to offset the huge strides made by China through the various Belt and Road initiatives. Admiral Davidson, commander of the U.S. Indo-Pacific Command, warned Congress in his March 2020 report that the United States currently lacks the capabilities and resources necessary to implement even the U.S. National Defense Strategy, let alone the broader FOIP agenda.[244]

Supporting a Free and Open Indo-Pacific would require the United States and its partners to create a credible alternative to what China is offering through a sustained and robust level of American engagement across diplomatic, economic, military, and other domains with countries in the Indo-Pacific. This

is essential in fostering an environment in which regional states have viable alternatives and can make their own choices. Even countries that may fear or resent China cannot reasonably be expected to resist without some measure of confidence that the United States is dependably committed to offer adequate alternatives and/or deter retaliation from Beijing. In the immortal words of Will Rogers, "you can't beat something with nothing."

The United States need not and should not seek to balance China alone. Neighboring democracies such as India, Japan, Australia, and Canada, as well as regional actors like ASEAN, share an interest in setting limits on the military and coercive advantages that are core to China's strategic pursuit of its BRI-based ecosystem.[245] Likeminded states are natural partners if they have adequate faith that Washington actually knows what it is doing and is acting in the larger interest. In the infrastructure space, one small step toward collaboration was the 2019 launch of the Blue Dot Network, a trilateral partnership between the United States, Japan, and Australia to certify infrastructure projects as a means of promoting international standards and private investment. However, certifying infrastructure projects is a far cry from funding them, and the absence of major players such as India diminishes the network's impact.

Countries cannot reasonably be expected to resist China without some measure of confidence that the U.S. is dependably committed to offer adequate alternatives… In the immortal words of Will Rogers, "you can't beat something with nothing."

India's ambivalence toward the Quadrilateral Security Dialogue (the Quad) presents a similar problem in the security sphere. The United States, Japan, Australia, and India resumed this dialogue in 2017 and held their first counterterrorism exercise in 2019. Another innovation was beginning a Quad-Plus Dialogue with Vietnam, South Korea, and New Zealand on COVID-19.[246] However, India's chronic reluctance to fully participate in the Quad has stymied its growth as a platform for significant policy or operational security cooperation among likeminded states. It remains to be seen if the uptick in Sino-Indian friction along their disputed border has the effect of overcoming India's reticence toward joint exercises, training, or military operations.

One pitfall to be avoided, however, is reliance on "anti-China" as an organizing principle for collaboration. Few countries believe they can afford to be seen joining a bloc aimed at containing or undermining China when geography or commercial interests require them to maintain at least a nominally cordial relationship with the leadership in Beijing. Conversely, the Trans-Pacific Partnership experience offers a lesson in the "sticky" power of affirmative goals. By aiming to put in place high-standard trade rules suitable for the digital age, the United States and its partners created powerful positive momentum that attracted others – recently including China itself.

Third-country qualms about joining with the United States in support of regional norms and balance are magnified by overt U.S.-China rivalry. Asian nations openly object to being forced to choose sides and are equally clear about their fear of being caught in major power crossfire. While they may accept that competition between the United States and China is inevitable, and at times relish resolute U.S. pushback against Chinese assertiveness, they react badly to a bellicose narrative that paints the Indo-Pacific as a zero-sum game between the United States and China. Governments are more inclined to keep their heads down than to openly align with Washington when Sino-American relations turn acrimonious.

In addition, as China grows and disperses its military assets more widely, including through integrated BRI platforms, contact between the PLA and United States or allied military forces is bound to increase. Unplanned and unsafe encounters in the air and sea carry significant risk of an incident becoming a crisis and a crisis leading to conflict. This argues for a resumption of the U.S.-China strategic consultation mechanisms that have fallen into disuse. U.S. and Chinese officials in the past have often pointed to bilateral military-to-military channels as both a circuit breaker against escalation and a stabilizing factor in the relationship.

As this report has shown, investment in infrastructure has been a central device for China to gain influence and develop a permissive environment for PLA operations and strategic advantage. So how can the United States compete? After all, it is not feasible for the United States to muster the resources sufficient to match China's BRI investments. Experience shows no amount of urging infrastructure-hungry governments in developing countries to reject BRI projects is effective in the absence of affordable alternatives. And while Washington has worked to leverage the private sector rather than directly finance projects, it lacks the ability to direct U.S. companies to make investments and develop competitive projects in the Indo-Pacific for strategic advantage.

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Japan and India have each shown themselves to be competitive in infrastructure development in Southeast and South Asia, respectively, and greater coordination with the United States can enhance that. Developing and emerging economies hosting BRI projects often lack the financial and human resource capacity to adequately conduct project due diligence. U.S. government agencies, multilateral institutions like the World Bank, and private companies can provide a range of technical assistance and advisory services to governments and stakeholders on how to design and retain control of BRI infrastructure in their own country.[247] This approach has already proven effective in Southeast Asia where the U.S. government has contributed to the successful revamping of several infrastructure projects and the formation of national development strategies.[248] Programs like the U.S. International Development Finance Corporation (USIDFC) can be expanded to provide technical assistance, make equity investments, and offer more private sector and market-driven alternatives to Beijing's state-centric development model.[249] Ultimately, even if Chinese companies are building and managing ports and other projects, the pernicious levers of corruption and excessive debt can be removed if the contracts and processes can be made to international standards of transparency, sustainability, and local control.

Beyond infrastructure is official development assistance (ODA). China's ODA spending, modest compared to its official financial investment in BRI projects, is principally focused on Africa. The United States and its allies, however, collectively wield immense aid resources. Improved and better-focused donor coordination, therefore, could magnify the impact in the Indo-Pacific. India, while a net recipient of ODA, still manages to provide substantial assistance to neighbors through technical cooperation and loans and through international organizations. Japan is the world's largest provider of aid to Asia;

in addition to bilateral assistance, its contributions to multilateral aid organizations is continuing to expand.[250] Australia, with a smaller economy, also spends a significant amount in development assistance, primarily focused on the Pacific Islands. South Korea spends an equivalent amount and has committed to increasing its ODA to ASEAN countries. The United States, however, ranks only 23rd out of the 30 OECD countries in terms of its ODA as a percentage of gross national income. Even in the current COVID- induced recession, there is room to increase U.S. development aid for the region.

Other valuable forms of assistance include training programs that cultivate military and civilian leaders. U.S. national security practitioners have long recognized the value of international military education training (IMET) programs in strengthening partnerships. The geostrategic significance of the Indo-Pacific is not reflected in the allocation of IMET funding. In fiscal year 2020, the entire Indo-Pacific region received less than 20 percent of IMET's budget.[251] Scaling up IMET spending would appear a logical and urgent step to reinforce U.S. military ties with the region.

Nor should diplomacy with China itself be abandoned. Sustained and high-level strategic dialogue is an indispensable tool for setting limits, deterring challenges, dispelling misconceptions, building confidence, and reducing risk.

Beyond the military domain, people-focused activities are critical "smart power" tools that enhance U.S. influence and strengthen bilateral ties. Investing in training and exchange programs build on a strong base of American soft power. Innovative people-to-people programs such as the Young Southeast Asian Leaders Initiative generate goodwill and support for the United States from all sectors of society. Similarly, academic exchanges like the Fulbright Programs in Asia have proven to be highly cost-effective tools for promoting American values and national interests. Yet while China has boosted the number of foreign students in its schools to nearly half a million – the majority subsidized by the Chinese government – the administration's FY 2021 budget proposes to cut educational and cultural exchanges by almost 60 percent.[252]

The U.S. abandonment of the high-standard Trans-Pacific-Partnership and its non-participation in the Regional Comprehensive Economic Partnership guarantee a diminished American profile in the economic life of the Indo-Pacific. China is the leading trade partner of nearly all states in the Indo-Pacific and is poised to take advantage of the U.S. absence from multilateral trade agreements.[253] Although the U.S. stock of FDI into the Indo-Pacific remains many times higher than that of China, regional states increasingly perceive China as the preeminent economic power to the detriment of the United States.[254] The United States and most free market governments also operate under a structural disadvantage in lacking SOEs that can be directed to invest for strategic, rather than commercial, reasons. However, there are ways to encourage trade and investment in strategically important countries and regions. In addition to the USIDFC, these tools include facilitating high-level business delegations by making them a part of a presidential visit or hosting entrepreneurship summits that bring together American and regional start-ups, which proved successful during the Obama administration.

And last but not least is diplomacy. Former Defense Secretary Jim Mattis famously told members of Congress that if they did not fund the State Department fully, he would need to buy more bullets. Active diplomacy, bilateral and multilateral, is vital to sustain balance in the region. Vacant ambassado-

rial positions need to be filled. High-level representation and active engagement are absolute necessities in regional fora like Asia-Pacific Economic Cooperation, ASEAN, or the East Asia Summit, as well as in subregional organizations including the Lower Mekong Initiative and the Indian Ocean Rim Association. These meetings and organizations offer the U.S. government the opportunity to showcase the American option, challenge Chinese messaging, and strengthen regional relations and U.S. influence. Sustained, high-level participation represents a critical investment in the international rules-based order.

Needless to say, America's ability to outcompete China in a contest for sustained access and support in the Indio-Pacific region is undermined by avoidable quarrels with allies over trade disputes or financial support for bases – issues that can and should be resolved through normal negotiations. Nor should diplomacy with China itself be abandoned. Sustained and high-level strategic dialogue is an indispensable tool for setting limits, deterring challenges, dispelling misconceptions, building confidence, and reducing risk. And functioning military-to-military dialogue at multiple levels is essential for crisis prevention and crisis management. These are not tools that the United States can afford to discard.

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The Authoritarian Challenge

China, Russia and the Threat to the Liberal International Order

Aaron L. Friedberg

Japan-U.S. Program

THE SASAKAWA PEACE FOUNDATION

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Introduction

Introduction

Over the course of the past decade, numerous observers have heralded the return of what has variously been described as "geopolitics," "great power politics," "power politics," or simply "history." As evidence of this trend, analysts point to Russia's 2008 invasion of Georgia, followed closely by the intensification of China's efforts to assert its claims in the East and South China Seas, and then, by Moscow's annexation of Crimea in 2014 and its ongoing intervention in eastern Ukraine. Both in Europe and in Asia, revisionist powers appear to be using traditional means—coercion and armed force—to achieve traditional ends—the seizure of territory and the readjustment of international boundaries. The post-Cold War dream of a peaceful world, filled with liberal, law-abiding states working together to solve common global problems has been revealed as an illusion; the "end of history" is at an end.[1]

This view of recent developments is not so much wrong as incomplete and, in certain respects, misleading. The first and most obvious point to make is that geopolitics—the maneuvering for power, influence, and position among nations—never went away and hence cannot truly be said to have "returned." To take only the most obvious example, the United States and China have been engaged in what the late Singapore leader Lee Kuan Yew labeled a "contest for supremacy" in East Asia since at least the mid-1990s.[2] Reports of the death of power politics, and of its resurrection, have been greatly exaggerated.

The notion that the world is somehow headed "back to the future" also risks distortion on several counts. As recent events make plain, both the means deployed in today's great power rivalries and the ends being sought differ in important respects from those of earlier eras. Neither Russia nor China is relying solely on familiar military or diplomatic tools and neither is engaged simply in old-fashioned, nineteenth-century-style "gunboat diplomacy" or crude, cross-border land grabs. Both seek to shape the perceptions and behavior of domestic as well as foreign audiences, and each has deployed the full array of instruments of modern state power, including political, legal, information, and economic "warfare," in order to achieve its aims. Nor are those objectives limited to the acquisition of resources or territory or prestige, as important as each may be. Moscow and Beijing both seek to weaken, if not yet to overthrow, prevailing rules and existing international institutions and, at least within the areas over which each hopes to exert a preponderant influence, to put new ones in their place.

A final and related point is central to the argument of this essay: casting what is happening in Europe and Asia as a return to traditional great power politics risks downplaying or ignoring

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1 Among the most articulate and thoughtful statements of these views are Robert Kagan, *The Return of History and the End of Dreams* (New York: Knopf, 2008) and Walter Russell Meade, "The Return of Geopolitics: The Revenge of the Revisionist Powers," *Foreign Affairs* 93, no. 3 (May/June 2014): 69–79. For an insightful account of the likely future shape of geopolitical rivalry see Thomas Wright, *All Measures Short of War: The Contest for the 21st Century and the Future of American Power* (New Haven: Yale University Press, 2017).

2 See Aaron L. Friedberg, *A Contest for Supremacy: China, America and the Struggle for Mastery in Asia* (New York: W.W. Norton, 2011).

one of the most important distinguishing features of the current situation. Today's Russian and Chinese rulers preside over illiberal, undemocratic political systems and they are motivated not merely by calculations of material interest and advantage but by less tangible considerations of ideology and belief. Unlike their Cold War forebears, neither group sees itself as the standard-bearer for a transnational creed that it seeks to spread to every corner of the earth. To the contrary, eager to rally domestic support, bolster legitimacy, and secure their grip on political power, both regimes have crafted nationalist narratives that highlight the uniqueness, superior virtue, historical grievances, and glorious destiny of their respective peoples. Notwithstanding their efforts in this regard, both regimes believe themselves to be threatened, perhaps mortally, by the crusading ideological evangelism of the Western liberal democratic powers, led by the United States, and by certain key features of the order that those powers put into place at the end of the Second World War. It is this perceived threat, and the response of the authoritarian powers to it, that drives their growing challenge to the contemporary international system.

Chapter 1

Origins

Chapter 1: Origins

The Rise (or Return) of the Authoritarian Capitalists

Today's Russian and Chinese regimes differ in many details, but they share certain essential features. In terms of politics, both are authoritarian systems in which decision-making power is concentrated in the hands of a small ruling elite, unchecked by free elections, autonomous legislatures, or independent judiciaries. Neither provides protections for civil liberties or basic human rights and, to the contrary, both impose strict controls on speech, the press, political opposition, civil society, and nongovernmental organizations (NGOs).[3] To justify their harsh rule, both deploy nationalist ideologies emphasizing the need for military strength and eternal vigilance against the supposed dangers of foreign aggression and domestic subversion. In recent years, both have been ruled by vigorous, visible, and evidently popular "maximum leaders" of the sort historically associated with fascism.

As regards the workings of their economies, both Russia and China deploy a form of state capitalism, a mix of private and public ownership of the means of production, albeit one in which the dividing line between the two spheres is often blurred beyond recognition. In part as a result, both have experienced extremely high levels of corruption.[4] In both systems, resources are allocated largely, though not exclusively, by the workings of the market; the state still formulates plans and intervenes to support "national champions," protect sectors deemed "strategic," and shape the overall evolution of the economy, but prices for most goods and services are determined by the forces of supply and demand. Last, but for our purposes most important, both nations are now deeply integrated into the global economic system, with substantial inward and outward flows of goods, services, and capital.

This distinctive combination of economic and political characteristics has given rise to a regime type that can best be described as "nationalist authoritarian capitalism." As historian Azar Gat points out, authoritarian capitalist regimes are not new and, in fact, earlier variants (most notably Nazi Germany and Imperial Japan) played a leading role in world politics prior to 1945.[5] Today's nationalist authoritarian capitalist great powers, however, are lineal descendants of the Communist totalitarian behemoths of the twentieth century or, more precisely, they are the outgrowth of mutations that those regimes experienced under the stress of an increasingly challenging international environment during the latter stages of the Cold War. After seeming at first to follow divergent paths during the 1990s, since the turn of the century both Moscow and Beijing have converged on a similar set of arrangements that have thus far enabled them

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3 See the annual "Freedom in the World" country assessments published by the Washington-based NGO Freedom House, https://freedomhouse.org/report/freedom-world/freedom-world-2017.

4 In 2016, Transparency International ranked Russia 131 and China 79 out of 176 countries in the Corruption Perceptions Index, https://www.transparency.org/country/.

5 Azar Gat, "The Return of Authoritarian Capitalists," *New York Times*, June 14, 2007; and *Victorious and Vulnerable: Why Democracy Won in the 20th Century and How It Is Still Imperiled* (Lanham MD: Rowman and Littlefield, 2010).

to enjoy many of the advantages of market-based, globally-integrated economies, while at the same time retaining tight, repressive control over their respective societies.[6]

This is not, to say the least, how things were supposed to turn out. The point of Francis Fukuyama's famous article proclaiming "the end of history" was that, with the close of the Cold War, the centuries-old struggle among alternative forms of social and economic organization would also come to an end. Having proven its superior evolutionary fitness by out-fighting, out-producing, and out-lasting a succession of monarchies, autocracies, and fascist and communist dictatorships, liberal democracy would finally emerge unchallenged as the dominant political lifeform on the planet.[7] In the last quarter century, however, illiberal, undemocratic regimes have not become extinct; instead they have adapted and evolved, learning to survive and even to thrive in the open global system that the democracies created for themselves in the wake of World War II. From weak and vulnerable fledglings, the nationalist capitalist authoritarians have grown in strength and confidence to the point where they now pose a deadly threat to the continued existence of that system.

The broad outlines of this story are familiar: as of the 1970s, both China and the Soviet Union were ruled by Marxist-Leninist party-states that aspired to control virtually every aspect of national economic, social, and political life. Divided by a common ideology, each proclaimed itself to be the leader of the world revolutionary Communist movement. As a matter of principle (and a result of the containment policies pursued by the United States and its liberal democratic allies) both were largely cut off from the increasingly integrated, dynamic, and prosperous Western economic system.

Over the course of the 1970s and 1980s, the leaders of both China and the Soviet Union came to see themselves as confronting foreign and domestic problems of growing complexity and severity. At home, economic growth had slowed to a crawl following decades of inefficient and wasteful central planning that was made worse, in China's case, by a protracted interval of bloody political turmoil and virtual civil war. Internationally, Beijing felt threatened by the mounting military might and hostility of the Soviet Union, while the Soviets, for their part, strained to keep pace with the increasing technological sophistication of Western weaponry and commercial products. Faced with these challenges, the Chinese leadership, followed in a few years by their Soviet counterparts, began what soon became far-reaching programs of reform. It is the consequences of these reform programs, intended and otherwise, that provide the foundations for today's authoritarian capitalist regimes.

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[6] Such regimes have sometimes been described as "open authoritarian," but they are in fact not truly open either economically or politically. See Naazneen H. Barma, Ely Ratner, and Regine A. Spector, "Open Authoritarian Regimes: Surviving and Thriving in the Liberal International Order," *Democracy and Society* 6, no. 2 (Spring 2009): 8–11.

[7] Francis Fukuyama, "The End of History?" *National Interest*, no. 16 (Summer 1989): 3–18.

China

With the exception of one major disruption, China's trajectory from past to present has been comparatively straight and with a steep upward slope. At the end of 1978, Deng Xiaoping, who had returned from political exile after the death of Chairman Mao two years earlier, launched China on the path toward becoming a market-based economy. Deng's stated goal was to achieve the "Four Modernizations," transforming agriculture, industry, science and technology, and defense by instituting a comprehensive program of "reform and opening up."[8] Wary of the possible disruptive effects of rapid change, Deng proceeded cautiously at first and in piecemeal fashion, but his initiatives soon generated tangible results and quickly gathered momentum and support. The shift away from massive, unproductive collective farms to more efficient, privately-owned agricultural plots freed millions of workers and it was followed by the creation of openings for entrepreneurship and the emergence of small businesses in the nation's cities. Gradually at first, and then with increasing speed, the state reduced its role in regulating prices, setting production targets and owning and managing all the means of production. After decades of self-imposed isolation and virtual autarky, China opened its doors to foreign capital and technology, combining these with its own vast supply of low-cost labor to transform itself into a major global platform for manufacturing and exports.[9]

During the 1980s, as China's economy was beginning to boom, there was serious discussion of the need for a "Fifth Modernization," one that would transform and democratize the nation's political system. In addition to calls for reform from students and intellectuals, some high-ranking officials within the Chinese Communist Party were sympathetic to the view that change was not only desirable but positively necessary in order to sustain growth and material progress. Indeed, according to Minxin Pei, by the mid-1980s, "the sense that China's economic reform could not move forward without complementary political reform was widely shared by the ruling elites." As one member of the Politburo Standing Committee put it in April 1986, "Economic reform cannot make progress without political and cultural reforms . . . We should not cede the ideas of freedom, democracy and human rights to capitalism."[10]

Notwithstanding such sentiments, influential figures within the Chinese Communist Party (CCP), not least of whom was Deng himself, remained fundamentally opposed to any suggestion that the Party should loosen its grip, let alone permit genuine political competition. Even

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8 For an illuminating account of Deng's return and opening moves see Christian Caryl, *Strange Rebels: 1979 and the Birth of the 21st Century* (New York: Basic Books, 2014), 21–32, 117–26, 169–80, 243–60, 327–38.

9 For accounts of the reform process see, among many others, Barry Naughton, *Growing out of the Plan: Chinese Economic Reform, 1978–1993* (New York: Cambridge University Press, 1995); Gregory Chow, *China's Economic Transformation* (Malden MA: Blackwell, 2007); Minxin Pei, *From Reform to Revolution: The Demise of Communism in China and the Soviet Union* (Cambridge MA: Harvard University Press, 1994).

10 Minxin Pei, *China's Trapped Transition: The Limits of Developmental Autocracy* (Cambridge MA: Harvard University Press, 2006), 50. A note about names: in what follows I have used the Chinese order for the names of well-known public figures (family name first, e.g. Deng Xiaoping) The names of Chinese scholars are presented in the order in which they appear in the authors' own work. Most of those living and working in the West prefer to put their family name second (e.g. Zheng Wang and Minxin Peil) while those living and working in China follow the opposite pattern (e.g. Yan Xuetong).

before the Tiananmen Square "incident" of June 1989, in which the authorities used indiscriminate force to disperse a large crowd of pro-democracy demonstrators, some leading advocates of greater openness had been removed from the top ranks of the Party.[11] Afterward, in addition to arresting thousands of dissidents and driving many others into exile, the regime proceeded to purge itself of all those who had expressed support for liberalization or were suspected of harboring "bourgeois" views.[12]

Tiananmen marked a decisive turn in China's development and set the country on the course that it has followed ever since. Despite efforts by some hardliners to slow or reverse Deng's economic policies (which, with some justification, they blamed for the recent turmoil), the CCP leadership ultimately decided to resume and even to further accelerate the process of "reform and opening up." On the political side of the equation, meanwhile, the effects were equally significant and far-reaching. While, there may have been real prospects in the 1980s for meaningful reform, after Tiananmen that possibility was effectively eliminated.

Instead of pursuing liberalization, an approach that might have eased the contradictions between a rigid political system and an increasingly diverse and dynamic society by strengthening the rule of law and permitting expanded political participation and a greater role for civil society, in the aftermath of Tiananmen the CCP regime instead opted to pursue a policy of "illiberal adaptation."[13] In addition to the promise of improvements in individual welfare from continued economic growth, the Party deployed an array of policies and programs designed to squelch dissent and encourage support, or at least acquiescence, from the general population. Included among these were the selective repression of key "troublemakers" through both legal and extra-judicial means; the active recruitment and cooptation into the Party of people from potentially influential societal groups, especially intellectuals and business executives; experimentation with new techniques for gathering data about public opinion, priorities, and concerns; the continuous expansion and improvement of procedures for controlling information and monitoring communications; and the development, refinement, and promulgation of materials aimed at instructing elites and indoctrinating the masses.[14]

Because of its implications for China's foreign and military policies, the last element in this portfolio deserves particular attention. Tiananmen has been described as a "near-death experience" for the Chinese Communist Party, a trauma whose impact was heightened by the nearly simultaneous collapse of Soviet Communism.[15] Recognizing that "Marxism-Leninism, Mao

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[11] Included among these was Hu Yaobang, whom Deng removed from his post as general secretary of the Party in 1987. Hu's subsequent death, in April 1989, provided the occasion for the initial student gatherings in Tiananmen Square.

[12] Among those purged was Hu's replacement, Zhao Ziyang. See Joseph Fewsmith, *China Since Tiananmen: The Politics of Transition* (New York: Cambridge University Press, 2001), 21–43.

[13] Pei, *China's Trapped Transition*, 81.

[14] For a recent overview of many of these techniques as they have evolved over the decades since Tiananmen, see Bruce J. Dickson, *The Dictator's Dilemma: The Chinese Communist Party's Strategy for Survival* (New York: Oxford University Press, 2016).

[15] Minxin Pei, "Beijing's Social Contract is Starting to Fray," *YaleGlobal Online*, June 3, 2004, http://yaleglobal.yale.edu/content/beijings-social-contract-starting-fray.

Zedong Thought" no longer had the power to evoke loyalty and sacrifice from the people, and especially from the young, the CCP leadership set about to create a new belief system that would be adequate to the task. This was perceived to be a matter of the utmost importance, one on which the very survival of the Party might well depend.[16]

First unveiled in 1991, the "Patriotic Education Campaign" became the vessel into which this fresh ideational content was poured and the delivery vehicle with which it has subsequently been spread to every corner of the land. The key ingredient of the new ideology is nationalism, "the one bedrock of political belief shared by most Chinese people in spite of the rapid decay of Communist official ideology." [17] But this is state-constructed nationalism of a very particular sort. Through educational materials, books, films, television programs, museum exhibits, and monuments, the Patriotic Education Campaign stresses the "century of national humiliation," the period between the Opium Wars of the 1840s and the founding of the People's Republic in 1949, during which China was invaded, occupied, exploited, and abused by ruthless and unscrupulous foreign powers.[18]

The narrative of national humiliation serves several purposes. First, as William Callahan notes, it enhances "the ideological, regime, and cultural security of the CCP" by shifting "the focus of youthful energies away from domestic issues back to foreign problems." More precisely, it directs popular attention and resentments "toward the foreigner as an enemy, as an External Other."[19] Patriotic education also binds the people to the Party by recasting the CCP, not so much as the leader of the proletarian revolution but rather as the savior of the nation and the defender of its honor. "Patriotism rather than Communism," writes Suisheng Zhao, has thus become "the basis of the CCP's . . . legitimacy."[20] Finally, the theme of national humiliation has proven to be a renewable resource, one that can be refreshed and redeployed to mobilize popular support in a seemingly limitless variety of situations. The list of past affronts and assaults on national unity and dignity is long, and even if more familiar ones are eventually erased, others are available to take their place.[21] Nor is this simply a matter of correcting the verdict of history. As Callahan explains, "Starting in the 1990s, the national-humiliation theme was used . . . to reinforce claims on islands (e.g., Hong Kong and the Spratleys) as 'naturally Chinese.' Since China lost face by losing territory to Western powers and Japan before 1945, now it must make sure not to lose face again by losing territory to its Southeast Asian neighbors."[22] In sum,

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16 Zheng Wang, *Never Forget National Humiliation: Historical Memory in Chinese Politics and Foreign Relations* (New York: Columbia University Press, 2012), 102.

17 Suisheng Zhao, "A State-Led Nationalism: The Patriotic Education Campaign in Post-Tiananmen China," *Communist and Post-Communist Studies* 31, no. 1 (1998): 289.

18 In addition to Wang and Zhao, see Peter Hays Gries, *China's New Nationalism: Pride, Politics, and Diplomacy* (Berkeley: University of California Press, 2004).

19 William A. Callahan, "History, Identity, and Security: Producing and Consuming Nationalism in China," *Critical Asian Studies* 38, no. 2 (2006): 186.

20 Zhao, "A State-Led Nationalism," 297.

21 Beijing only began to question Japan's control of the Senkaku/Diaoyu Islands in the 1970s and has only done so in an active way since 2010. Recently, some commentators have begun to suggest for the first time that China has a rightful claim to Okinawa.

22 William A. Callahan, "National Insecurities: Humiliation, Salvation, and Chinese Nationalism," *Alternatives* 29, no. 2 (March 2004): 212.

the threat of humiliation remains very much alive, and for as long as it does, the Party must continue to play its leading role.

By the end of the 1990s, China had essentially completed the transition from a communist totalitarian system still in the grips of Marxism-Leninism-Maoism, to an authoritarian capitalist regime with a newly minted nationalist ideology. These basic features have persisted down to the present, with some notable adjustments in the economic, political, and ideological spheres. In each, the trend since the turn of the century has been toward tightening rather than loosening, and toward greater control at home and a more assertive posture abroad, rather than the progressive relaxation and peaceful integration that had been widely expected in the West.

Throughout the 1990s, China was generally seen to be moving steadily toward greater reliance on market forces. The modification of laws and regulations during this period was no doubt due in part to Beijing's desire to gain admittance to the World Trade Organization (WTO), but it also evidently reflected the beliefs and preferences of Deng's handpicked successor, Jiang Zemin, and his deputy, Premier Zhu Rongji. This liberalizing trend continued for two years after China's accession to the WTO, but it slowed markedly with the rise to power of a new generation of Party leaders, led by Hu Jintao and Wen Jiabao. As described in an analysis prepared by the office of the U.S. Trade Representative, from 2003 onward, "while the Chinese government continued to take steps to implement China's outstanding WTO commitments, it generally did not pursue economic reforms as aggressively as before." Instead, Beijing "increasingly emphasized the state's role in the economy," placing relatively less reliance on market forces and more on "economic planners and state-owned enterprises [SOEs]."[23] While the number of SOEs continued to fall, instead of being privatized, many smaller entities were merged into new conglomerates.[24] The state sector also received a sizeable boost in the aftermath of the 2008–2009 global financial crisis when SOEs became the favored recipients of the government's massive stimulus package.[25] Although their share has diminished since the 1990s, SOEs still account for an estimated 25–30 percent of national output and continue to play a central role in advancing the regime's political goals, including "supporting social stability and crisis response in China, and advancing economic initiatives abroad."[26]

The first years of Hu's regime also saw the creation of new bureaucratic mechanisms and the initiation of new targeted industrial policies intended to encourage "indigenous innovation" and nurture sectors regarded as essential for the further development of China's economic and military power.[27] These policies have grown more elaborate and ambitious over time and now

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[23] U.S. Trade Representative, *2015 Report to Congress on China's WTO Compliance* (Washington: Executive Office of the President, 2015), 3.

[24] See Wendy Leutert, "Challenges Ahead in China's Reform of State-Owned Enterprises," *Asia Policy*, no. 21 (January 2016): 88–89; Gabriel Wildau, "China's State-Owned Zombie Economy," *Financial Times*, February 29, 2016.

[25] Joshua Kurlantzick, *State Capitalism: How the Return of Statism Is Transforming the World* (New York: Oxford University Press, 2016), 100–1.

[26] Leutert, "Challenges Ahead," 86.

[27] For an account of what is described as "the surge of national industrial policy programs in China after 2004," see Sebastian Heilmann and Lea Shin, "The Rise of Industrial Policy in China, 1978–2012," (Cambridge MA:

include programs aimed at making Chinese firms the world leaders in semiconductors, information technology, and robotics, among other sectors.[28]

With regard to the political sphere, starting with the onset of the global financial crisis in 2008, followed by the events of the "Arab Spring" in 2011, the Chinese authorities have increased the already considerable resources they devote to repression, surveillance, and ideological indoctrination.[29] These tendencies, already visible during the waning years of Hu Jintao's administration, have become even more marked since the elevation of Xi Jinping to the top positions in the party-state apparatus at the end of 2012 and the beginning of 2013; indeed, they have become the distinguishing features of his rule.

Effectively dispensing with the fiction that China is governed by a collective leadership of fraternal Party comrades, Xi has concentrated virtually all decision-making power into his own hands.[30] While officially rejecting the notion of a "cult of personality," he has nevertheless become a far more visible, dynamic, and evidently popular leader than China has had in decades.[31] Using his newfound authority to move quickly and decisively, within months of taking office, Xi unleashed a series of initiatives intended to reinforce the legitimacy of the CCP by cracking down on official corruption and boosting China's sagging economic growth rate. He also took steps to strengthen the regime's stranglehold on political power by intensifying repression of dissidents, restricting the activities of NGOs, and further tightening control over the Internet.[32] Among other measures, the regime drafted new counterespionage and counterterrorism laws that "equate[d] peaceful dissent with terrorism, strengthen[ed] control over civil society groups that receive foreign funding, and appear[ed] to target specific ethnic minority groups."[33] At Xi's direction, Beijing unleashed what the group Human Rights Watch

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Harvard-Yenching Institute, 2013), 1. Regarding indigenous innovation, see James McGregor, "China's Drive for 'Indigenous Innovation': A Web of Industrial Policies," (Washington DC: U.S. Chamber of Commerce, 2010).

28 See Executive Office of the President, President's Council of Advisors on Science and Technology, "Report to the President: Ensuring Long-Term U.S. Leadership in Semiconductors" (January 2017); Jost Wübbeke, et al., "Made in China 2025: The Making of a High-Tech Superpower and Consequences for Industrial Countries," Mercator Institute Papers on China, no. 2 (December 2016); U.S. Chamber of Commerce, "Preventing Deglobalization: An Economic and Security Argument for Free Trade and Investment in ICT" (September 2016).

29 Dickson, *Dictator's Dilemma*, 39–40.

30 In addition to putting himself in charge of the existing "leading small groups" that address the most important policy issues, Xi created several new ones. He also oversaw the creation of a National Security Commission that David Lampton describes as making Xi "almost the solo coordinator of Chinese foreign and national security policy." See Alice Miller, "More Already on the Central Committee's Leading Small Groups," *China Leadership Monitor*, no. 44 (Summer 2014); Andrew Nathan, "China in 2016," *ChinaFile*, December 23, 2015, https://www.chinafile.com/conversation/china-2016. David Lampton, "Xi Jinping and the National Security Commission: Policy Coordination and National Power," *Journal of Contemporary China* 24, no. 95 (2015): 770.

31 See "Xi Jinping: A Cult of Personality?" *ChinaFile*, March 4, 2016, https://www.chinafile.com/conversation/xi-jinping-cult-personality.

32 For background, see Nadège Rolland, "China's National Power: A Colossus with Iron or Clay Feet?" in *Foundations of National Power in the Asia-Pacific*, ed. Ashley Tellis (Seattle: National Bureau of Asian Research, 2016), 36–43. For an overview of many of Xi's initiatives, see Christopher K. Johnson, *Decoding China's Emerging "Great Power" Strategy in Asia* (Washington DC: Center for Strategic and International Studies, May 2014).

33 "China: Political Repression at a High Mark," *Human Rights Watch*, January 29, 2015, https://www.hrw.org/news/2015/01/29/china-political-repression-high-mark.

has described as "an extraordinary assault on human rights and their defenders with a ferocity unseen in recent years."[34]

In addition to all these more concrete measures, Xi sought to stiffen ideological discipline in the CCP and the nation as a whole. Soon after taking office, he approved the circulation to Party officials at all levels of a "Communique on the Current State of the Ideological Sphere." This document spelled out seven "noteworthy problems" that demanded special vigilance and redoubled attention. Included among these "perils" were efforts by foreign and domestic enemies to promote subversive ideas such as "Western constitutional democracy," "universal values," "civil society," "neoliberalism," "the West's idea of journalism," and "historical nihilism," while calling into question "Reform and Opening and the socialist nature of socialism with Chinese characteristics."[35] This directive provided the basis for a "rectification campaign" aimed at improving the performance of CCP members, as well as a subsequent move to strengthen the "Patriotic Education" program and expand it to include Chinese students studying abroad.[36]

Xi also put his own distinctive mark on official ideology by declaring his intention to achieve the "China Dream," defined as "the great rejuvenation of the Chinese nation."[37] These slogans grow directly out of the discourse of humiliation and evoke its now-familiar themes. China requires rejuvenation and renewal because of the injustices and suffering inflicted on it by foreign powers; what it seeks is not merely to rise, but to be restored to its rightful place in the world.[38] But Xi's rhetoric also gives voice to a more assertive, self-confident, and forward-looking brand of Chinese nationalism. Under his guidance, instead of continuing to follow Deng Xiaoping's cautious 1991 dictum that the nation should "hide its capabilities and bide its time," China will now "strive for achievement."[39] By 2049, the nation's 100th anniversary, Xi has promised that the China Dream will "inevitably" be achieved, although precisely what this would mean remains unclear.

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34 Human Rights Watch, "World Report 2015: China," https://www.hrw.org/world-report/2015/country-chapters/china-and-tibet.

35 "Communique on the Current State of the Ideological Sphere," April 22, 2013. See "Document 9: A ChinaFile Translation," *ChinaFile*, November 8, 2013, https://www.chinafile.com/document-9-chinafile-translation.

36 See Brendan Forde, "China's 'Mass Line' Campaign," *Diplomat*, September 9, 2013, http://thediplomat.com/2013/09/chinas-mass-line-campaign-2/; Chris Buckley, "China Says Its Students, Even Those Abroad, Need More 'Patriotic Education,'" *New York Times*, February 10, 2016.

37 On the meaning of Xi's "China Dream," see Ming Wan, "Xi Jinping's 'China Dream': Same Bed Different Dreams?" *Asan Forum*, August 2, 2013, http://www.theasanforum.org/xi-jinpings-china-dream-same-bed-different-dreams/; Camilla T. N. Sorensen, "The Significance of Xi Jinping's 'China Dream' for Chinese Foreign Policy," *Journal of China International Relations* 3, no. 1 (2015): 53–73

38 Zheng Wang, "The Chinese Dream: Concept and Context," *Journal of Chinese Politics*, no. 19 (2014): 9; William A. Callahan, "Identity and Security in China: The Negative Soft Power of the China Dream," *Politics* 35, no. 3–4 (2015): 223.

39 On the significance of this phrase, see Yan Xuetong, "From Keeping a Low Profile to Striving for Achievement," *Chinese Journal of International Politics* 7, no. 2 (2014): 153–84.

Russia

In contrast to China, Russia's political and economic development over the past quarter-century has been marked by several sharp twists and turns. Despite these perturbations, however, the Russian system has also evolved from communist totalitarianism to a form of nationalist authoritarian capitalism that appears for the moment at least to be relatively stable. This story can usefully be divided into three phases.

By the early 1980s, it had become clear, even to those at the top of the Soviet hierarchy, that the system of central economic planning that had helped propel the USSR to superpower status was broken and increasingly dysfunctional. Aggregate growth rates had spiraled downwards over the course of the two preceding decades, causing living standards to stagnate and increasing the burden imposed by rising military expenditures and the mounting costs of propping up Soviet clients in Eastern Europe and the Third World.[40] To make matters worse, despite massive investments in research and an extensive program of industrial espionage, the Soviet Union was being left behind in the information revolution that was beginning to transform the armed forces and civilian economies of the advanced industrial democracies.[41]

Following the death of long-time leader Leonid Brezhnev in 1982 and the subsequent appointment and untimely demise of two geriatric successors, in 1985 Mikhail Gorbachev was elevated to the position of general secretary of the Communist Party. Gorbachev was the first Soviet leader to have come of age after the end of the Second World War and he began his rise through the Party ranks in the hopeful period that followed the death of Josef Stalin. In contrast to his predecessors, Gorbachev was quick to recognize the full scope and magnitude of the failings of the existing system but, unlike them, he was not exhausted and cynical about the prospects for meaningful reform. As historian Stephen Kotkin points out, Gorbachev was representative of a new generation of idealistic Party officials who still had faith in the possibility of building what Czech leader Alexander Dubček had called "socialism with a human face." Gorbachev and those around him "believed the planned economy could be reformed essentially without introducing full private property or market prices. They believed relaxing censorship would increase the population's allegiance to socialism. They believed the Communist Party could be democratized. They were mistaken."[42]

When Gorbachev's opening moves toward *perestroika*, the restructuring of the Soviet economy, were met with resistance from entrenched Party bureaucrats, he counterattacked by introducing the concept of *glasnost*, or openness. Given greater freedom to speak their minds, Gorbachev expected that his countrymen would aid the cause of reform by venting their frustration at

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[40] See Charles Wolf Jr., K.C. Yeh, Edmund Brunner, Jr., Aaron Gurwitz, Marilee Lawrence, *The Costs of Soviet Empire* (Santa Monica: RAND, 1983).

[41] See the discussion in Aaron L. Friedberg, *In the Shadow of the Garrison State: America's Anti-Statism and Its Cold War Grand Strategy* (Princeton: Princeton University Press, 2000), 334–39.

[42] Stephen Kotkin, *Armageddon Averted: The Soviet Collapse 1970–2000* (New York: Oxford University Press, 2001), 3.

inefficient managers and officials. Instead, after some initial hesitation, they began to indulge in what Karl Marx might have called "a ruthless criticism of everything existing." Media outlets multiplied, as did expressions of dissatisfaction. [43] Critics challenged Marxist-Leninist ideology; the compulsory unification of various ethnic and national groups into a single, Russian-dominated state; and even the continued validity of one-party rule. According to one émigré economist, "By 1989 there was little left unattacked. The people were told that they were being governed by the party responsible for monstrous atrocities, inflicting misery on its subjects, and leading the country to ruin."[44] The erosion of its legitimacy left the regime brittle and its dwindling band of defenders demoralized and uncertain. When a group of Party hard-liners and military men finally bestirred themselves to attempt a coup in the summer of 1991, it quickly failed. Within a matter of months, the Communist regime had collapsed and the Union of Soviet Socialist Republics shattered into its constituent parts, of which Russia was largest.

The second stage in Russia's evolution is demarcated by Boris Yeltsin's two terms as the nation's president, a tumultuous and often chaotic interval extending from 1991 to 1999. This period was marked by the emergence of a severely weakened post-Soviet state, the marketization of the Russian economy, and the start of a movement away from something resembling democracy and toward a new form of authoritarianism.

In terms of its ability to monitor and control all aspects of social, economic, and political life, the once-mighty Soviet totalitarian state had already grown weaker over the course of Brezhnev's protracted reign, and weaker still during Gorbachev's six years of increasingly desperate improvisation and experimentation. Following the Soviet collapse, Yeltsin had the option of sweeping away all remaining Soviet era institutions and building entirely new state structures in their place. As Michael McFaul explains, Yeltsin was presented with a "window of opportunity" in which "he could have established a harsh authoritarian state . . . or . . . moved to consolidate a democratic polity." In the event, he did neither. Seeking to avoid what they saw as Gorbachev's mistake of emphasizing politics at the expense of economics, Yeltsin and his team made the opposite error, deferring questions of institutional design and concentrating instead on implementing a program of radical economic reform.[45]

The weakness at the center of the new Russian system was offset to a degree by the passage of a new constitution in 1993, under which the executive was granted extensive powers, at least on paper.[46] But, in practice, the events of the early post-Soviet period left a legacy of weakness that lingered throughout the 1990s. The central authorities were unable to effectively perform the most basic tasks of a modern state: collecting taxes, regulating the circulation of money, and

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[43] On what he describes as the "liberal takeover of the mass media," see Pei, *From Reform to Revolution*, 179–204.

[44] Vladimir Kontorovich, "The Economic Fallacy," *National Interest,* no. 31 (Spring 1993): 41.

[45] Michael McFaul, "State Power, Institutional Change, and the Politics of Privatization in Russia," *World Politics* 47 (January 1995): 225–26.

[46] On the period of what he calls "lame presidentialism," see Kotkin, *Armageddon Averted*, 147–54. The 1993 constitution created powers—including direct control of army, police, and security services and the ability to rule by decree—that Vladimir Putin would later put to use in consolidating his control over the Russian system.

even maintaining a monopoly over the use of armed force.[47] Regional leaders often "ignored central directives, gained de facto control over natural resources in their territories, and dictated policy in areas that were officially the realm of the central government (e.g., citizenship, tax collection, and privatization)." Army conscripts failed to report for duty in increasing numbers, military wages went unpaid and local commanders at times took matters into their own hands in prosecuting border disputes with some of Russia's newly independent neighbors. Among the few organs of central state authority that continued to function effectively were the security services which, despite being broken up and reconstituted, retained most of their personnel as well as their intrusive powers.[48]

The weakening of the state was accompanied by a sudden and dramatic expansion in the role of the market and the creation of a capitalist economic system, albeit one with some unusual characteristics. Acting on the advice of Western economists, Yeltsin sought to achieve a rapid, radical transition from communism to capitalism through the administration of what came to be referred to as "shock therapy." Starting in 1992, most Soviet-era price controls and subsidies were abandoned virtually overnight, the first steps were taken toward opening the Russian economy to foreign trade and investment, and the process of privatizing assets and dissolving the state's long-standing ownership of the means of production was begun. Between 1993 and 1995, over 75,000 SOEs were sold off.[49] Having started from a base of close to zero, by the end of the decade private enterprise accounted for roughly 75 percent of Russia's GDP and employed 80 percent of its labor force.[50] The Swedish economist Anders Åslund concludes that, after a few years of transition, and without significant backsliding, Russia had acquired a functioning market economy.[51]

As was true of Gorbachev's efforts to reshape the Soviet system, however, the most important and long-lasting consequences of Yeltsin's reforms may have been the ones that were unintended. The lifting of price controls triggered runaway inflation, wiping out private savings and pushing many to the brink of poverty. Factories closed, millions were put out of work, output fell, and GDP contracted year-on-year for the better part of a decade. Albeit without the massive loss of life, Russia suffered an economic setback larger and more protracted than the one caused by the First World War and the Russian Revolution.[52] While the great majority

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47 Piotr Dutkiewicz, "Missing in Translation: Re-conceptualizing Russia's Developmental State," in *Russia: The Challenges of Transformation*, ed. Vladimir I. Yakunin (New York: NYU Press, 2011), 16.

48 Steven Levitsky and Lucan A. Way, *Competitive Authoritarianism: Hybrid Regimes After the Cold War* (New York: Cambridge University Press, 2010), 188–89.

49 Pawel Augustynowicz, "State-owned enterprises in Russia – The origin, importance and principles of operation," in *Crisis Management and the Changing Role of the State*, ed. E. Voszka and G. D. Kiss (Szeged, Hungary: University of Szeged Doctoral School of Economics, 2014), 134.

50 Victor Supyan, "Privatization in Russia: Preliminary Results and Socioeconomic Implications," *Demokratizatsiya*, no. 9 (Winter 2001): 144.

51 The defining features of such a system, Åslund writes, are that "economic decisions are predominately made by free individuals and independent firms . . . No State Planning Committee tells enterprises what to produce. Nor does the state allocate goods. Prices and trade are generally free . . . Transactions are overwhelmingly monetized." Anders Åslund, "Why Market Reform Succeeded and Democracy Failed in Russia," *Social Research* 76, no. 1 (Spring 2009): 2, 4.

52 Dutkiewicz, "Missing in Translation," 14.

of ordinary people saw their prospects worsen, a clever, ruthless, and unscrupulous few were able to take advantage of the privatization process, using connections, muscle, and borrowed money to buy up state assets at a fraction of their real value and accumulating vast fortunes in the process. Inequality skyrocketed as a new class of super-wealthy "oligarchs" gained control over significant sectors of the nation's economy and a growing share of its total wealth.[53]

These developments, in turn, had a major impact on Russia's political development. Economic hardship quickly eroded support for reform and increased the popularity of ultra-nationalists and unrepentant Communists, who won election to parliament and used their position there to try to block the further implementation of Yeltsin's plans. By 1993, the situation had devolved from constitutional crisis to virtual civil war, as Yeltsin used tanks to shell the parliament, driving out its members, forcing its dissolution, and pushing through a new constitution that greatly enhanced his nominal powers.

The emergence of the oligarchs introduced another element into Russian politics that did not bode well for the future of liberal democracy. Despite his seeming success in consolidating power, Yeltsin's policies remained unpopular, he continued to face strong opposition from parties of the left and right and he still needed to win re-election. In 1996, fearful of defeat and in desperate need of cash, the Yeltsin administration made a deal with a handful of wealthy investors, giving them shares in a dozen large state-owned energy, mineral, and shipping companies in return for $800 million in "loans."[54] These funds were used to help finance the government deficit, preventing a relapse into hyperinflation that might have been fatal to Yeltsin's chances for re-election. Some portion also found its way directly into his presidential campaign, where it was used to buy advertising and votes.[55] Newspapers and television channels owned by the oligarchs, as well as those under direct government control, provided additional assistance by offering up a steady flow of pro-Yeltsin "news" and information.[56]

The 1996 campaign is widely regarded as a turning point in Russia's post-Cold War political development. In its aftermath, the country remained an electoral democracy and its politics remained competitive (in part because of the weakness of the incumbent), but the ruling party's advantages in mobilizing resources and controlling information meant that they were becoming less competitive with the passage of time. According to the indices of political rights and civil liberties compiled by Freedom House, Russia went from being a "not free" country in 1985 to "partly free" in 1990. It retained this standing throughout the decade, but its scores peaked in the mid-1990s and declined thereafter, returning to "not free" status by 2005. [57] As dissident

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[53] Between 1985 and 1994, Russia's gini index doubled from 0.24 to 0.46. Daniel Treisman, "Inequality: The Russian Experience," *Current History* 111, no. 747 (October 2012): 264–69.

[54] See Daniel Treisman, "'Loans for Shares' Revisited," *NBER Working Paper Series*, no. 15819 (Cambridge MA: National Bureau of Economic Research, March 2010).

[55] By one estimate, Yeltsin's campaign spent somewhere between 30 and 150 times more than the Communists but still managed to win election with only 54 percent of the vote. Levitsky and Way, *Competitive Authoritarianism*, 194–95.

[56] John Lloyd, "The Russian Devolution," *New York Times Magazine*, August 19, 1999.

[57] See the table in Young Choul Kim, "Economic Transition in China and Russia," *European Scientific Journal* 1 (May 2015): 360.

Garry Kasparov notes, Yeltsin's actions in 1996 "undermined nearly every aspect of a democratic society and it never recovered. His successor would quickly take up Yeltsin's campaign tools of repression and corruption and apply them to everyday governance."[58]

Yeltsin's surprising decision to step down before the completion of his second term in 1999, his appointment of Vladimir Putin and Putin's subsequent election to the presidency in his own right in 2000 marked the start of the third phase in the development of the Russian system and its emergence as a stable, authoritarian-capitalist nationalist regime. Of the three major trends visible during the Yeltsin era, Putin reversed two and accelerated the third, strengthening the Russian state and partially undoing the process of privatization, while pushing the nation rapidly toward full-blown authoritarianism. In contrast to his predecessor, Putin also eventually abandoned any pretense of wanting to join the liberal democratic world and proceeded to craft a frankly illiberal, anti-Western, nationalist ideology to rally popular support and legitimize his regime.

In their insightful study of the intellectual and psychological foundations of his rule, Fiona Hill and Clifford Gaddy conclude that, among his various beliefs and identities, Putin is above all "a man of the state . . . a statist."[59] As a middle-ranking KGB officer, Putin had watched in dismay as the Soviet empire collapsed, followed in short order by the Soviet Union itself. He regarded the years that followed as a time of weakness, chaos, and humiliation and, like many of his conservative contemporaries, he concluded that rebuilding a strong state was essential to Russia's rehabilitation as a great power and even to its survival as a nation. Well-read in his country's history, Putin self-consciously styled himself after previous leaders, like Nicholas II's Prime Minister Pyotr Stolypin, who had sought to strengthen Russian institutions after periods of internal division and disunity.[60] As he explained in his "Millennium Message" at the end of 1999, "For Russians, a strong state is not an anomaly to fight against. Quite the contrary, it is the source and guarantor of order, the initiator and main driving force of any change."[61]

With this end in view, over the course of the next several years Putin took a series of steps aimed at rebuilding the power of the Russian state: reducing and then eliminating the autonomy of regional governments, strengthening the legal system so that it could be used more effectively as an instrument of social and political control, improving the yield of the tax system and reigning in the power of the oligarchs.[62] At a meeting with a handful of Russia's wealthiest men in the summer of 2000, a few months after his inauguration, Putin laid out new "rules of the game": the oligarchs could keep their fortunes, regardless of how they had been obtained, provided that they did not seek to oppose him.[63] This was the first move in what would become a sustained

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58 Garry Kasparov, *Winter is Coming: Why Vladimir Putin and the Enemies of the Free World Must Be Stopped* (New York: Public Affairs, 2015), 58.
59 Fiona Hill and Clifford G. Gaddy, *Mr. Putin: Operative in the Kremlin* (Washington DC: Brookings Institution, 2015), 39.
60 Ibid., 71–72.
61 Ibid., 40.
62 See Karen Dawisha, *Putin's Kleptocracy: Who Owns Russia?* (New York: Simon and Schuster, 2014), 266–312.
63 Marshall I. Goldman, "Putin and the Oligarchs," *Foreign Affairs* 83, no. 6 (November/December 2004): 33–44.

effort to "reverse the state-business relationship to restore the dominance of the state."[64]

At the heart of this shift was a "judicious and incremental" campaign aimed at reasserting state control over the most important sectors of the Russian economy and, in particular, over the production and transportation of energy and natural resources.[65] At his direction, Gazprom and Rosneft, two energy giants that Yeltsin had sought to privatize, were brought back firmly under the ownership of the government. Even where companies remained nominally in private hands, Putin made sure that they were managed by his close associates, members of a new class of "crony oligarchs." Under these arrangements, as Hill and Gaddy explain, "the juridical ownership of the core Russian companies has proven almost irrelevant," with public and private firms alike subject to oversight and direction from the Kremlin and from Putin himself.[66] Given that much of Russia's GDP is generated by the energy and resource sectors, and that these are dominated in turn by a relatively small number of companies, it is possible in this way for the state to monitor and control a significant portion of the nation's economic activity.[67]

The resulting system has been variously described as "state corporatism"[68] and a form of "'natural-resource-based capitalism with Russian characteristics."[69] In addition to its dominant role in the natural resources sector, the state owns or controls companies in other industries believed to be of vital importance to national welfare and security, including "railroads, ship-building . . . aviation and space . . . nuclear power stations, and weapons design and manufacture."[70] Much like in China, Russia's "political-economic landscape . . . is now . . . dominated by big businesses close to or part of the state, especially in sectors deemed 'strategic.'"[71] And, as in China, the state seeks to play a central role in guiding and directing the development of the national economy. As economist Michael Ellman explains, "This is not planning in the Soviet sense of replacing the market by the bureaucratic allocation of resources. It is planning *in the market* . . . the formulation and attempted implementation of strategic national programs in an economy with a large private sector and predominately market prices where much of international trade is in private hands."[72]

After the turn of the century, following nearly a decade of contraction, Russia's economic performance turned sharply upwards. While the stabilization of a functioning market system and Putin's tight fiscal policies played a role, this success was due largely to the run up in

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64 Peter Ferdinand, "Russia and China: Converging Responses to Globalization," *International Affairs* 83, no. 4 (2007): 667.

65 Steven Lee Myers, *The New Tsar: The Rise and Reign of Vladimir Putin* (New York: Vintage, 2016), 227. Putin's efforts in this regard were aided by the fact that many of the oligarchs and the corporations they controlled had been weakened by the 1998 financial crisis.

66 Hill and Gaddy, *Mr. Putin*, 204.

67 Ibid., 197–206.

68 Peter Rutland, "Post-Socialist States and the Evolution of a New Developmental Model: Russia and China Compared," *Polis,* no. 3 (June 2009): 165–76. [In Russian. Accessed in English at http://prutland.faculty.wesleyan.edu/files/2015/07/Rutland-China-Russia-Compared.pdf. Quote from p. 10.]

69 Michael Ellman, "Russia's Current Economic System: From Delusion to *Glasnost*," *Comparative Economic Studies* 57 (2015): 693–94.

70 Ibid., 702.

71 Ferdinand, "Russia and China," 670.

72 Ellman, "Russia's Current Economic System," 699 (emphasis added).

energy prices that began soon after he took office. Putin used the resulting windfall to pay off Russia's debts and bolster its international position, but he made no attempt to use the country's newfound prosperity, or his own growing popularity, to strengthen the institutions of democracy. To the contrary, from his first days in office, the new president began systematically to isolate, weaken, and destroy potential sources of opposition and to solidify his own grip on power. Oligarchs who chafed at the new "rules of the game" were arrested or driven into exile and their assets confiscated. Television and other national media outlets were brought under Kremlin control. Several highly regarded print journalists who persisted in writing articles critical of the government died in mysterious accidents or were murdered by "unknown assailants." Police, prosecutors, and courts could be relied upon to do the regime's bidding, covering up its crimes and persecuting its enemies. Opposition political parties continued to function, but supporters and potential contributors were intimidated by threats of tax audits and other legal proceedings. Human rights campaigners were harassed and new laws passed that expanded the definition of "extremism" and subversive "anti-state" activities while clamping down on the operations of NGOs.[73]

Although the forms of electoral democracy remained, by the end of Putin's first term, if not before, it had become clear that they no longer had substance or meaning. With most of his potential rivals demoralized or intimidated, the president ran virtually unopposed in 2004, winning reelection with 71 percent of the vote. In 2008, in keeping with a constitutional provision limiting presidents to two consecutive terms, Putin stepped aside, exchanging posts with Prime Minister Dmitri Medvedev. But four years later, he was back, defying public protests and allegations of electoral fraud to coast to victory with an only slightly less impressive 63 percent share of the votes cast.[74] While these figures were no doubt inflated, there is little question of Putin's popularity, especially among the poorer voters in more rural areas who provided the base of his support.[75]

How best to characterize the Russian political system? While Putin and his colleagues prefer the term "managed" or "guided" democracy,[76] Western observers have described his regime variously as "the re-emergence of Russian autocracy,"[77] "a typical postrevolutionary dictatorship,"[78] a "kleptocratic tribute system,"[79] "part oligarchy . . . [part] feudal system,"[80] and an example of "competitive authoritarianism."[81] In contrast to fully authoritarian systems (like China's), this last category of regimes retains the fiction that they permit organized opposition, free elections, and free speech. In practice, however, those in power use a variety of legal and

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73 For overviews of this process see Edward Lucas, *The New Cold War: Putin's Russia and the Threat to the West* (New York: Palgrave Macmillan, 2014), 25–111; Kasparov, *Winter is Coming*, 83–132.
74 Myers, *The New Tsar*, 244–54, 401–7.
75 Michael McFaul, "We Can't Let Trump Go Down Putin's Path," *Washington Post*, February 6, 2016.
76 Ferdinand, "Russia and China," 674.
77 Michael McFaul and Kathryn Stoner, "Putin's Flawed Model," *Hoover Digest*, no. 2 (2008).
78 Åslund, "Why Market Reform Succeeded," 16.
79 Dawisha, *Putin's Kleptocracy*, 4.
80 Kasparov, *Winter is Coming*, 160.
81 Levitsky and Way, *Competitive Authoritarianism*, 3–36.

extra-legal methods to suppress dissent and tilt the political playing field decisively in their favor.[82] While this description is accurate, as far as it goes, at this point it would be misleading to suggest that the Russian system is in any sense competitive and, indeed, the authors of the concept have concluded that by 2008, Russia had made the transition to full authoritarianism.[83]

In the course of consolidating his personal power Vladimir Putin, like Xi Jinping, has been the author of some notable ideological innovations. Unlike Xi, however, who added his own amendments and extensions to a vast and continuous corpus of official pronouncements stretching back over many decades, Putin began with what was essentially a blank sheet. Following the Soviet collapse, Russia's new leaders explicitly rejected Marxism-Leninism and, at least in theory, embraced market economics and democratic politics, but they remained wary of formal doctrines. Eager to differentiate himself from former Communist Party members seeking to return to power, Putin declared in his 1999 Millennium message, "I am against the restoration of an official state ideology in Russia in any form."[84]

During the subsequent presidential campaign, Putin cast himself as a Russian patriot; as an advocate for national unity, social cohesion, and a strong Russian state; but above all, as a non-ideological, even anti-ideological, pragmatist.[85] Putin's initial moves were justified largely in terms of the need to establish "law and order" by reining in oligarchs and common criminals, crushing terrorists, and defeating separatist forces in Chechnya. Things began to change after the 2004 "Orange Revolution," which saw the defeat of Russia's preferred candidate for president of the Ukraine following mass demonstrations and allegations of election fraud. These events, which have been described as "Russia's 9/11,"[86] were interpreted by Moscow both as a geopolitical setback and as evidence of a growing threat of penetration and subversion by the West. In order to meet this alleged danger, and to justify its increasing authoritarianism, Putin's regime required "a legitimizing ideological foundation"[87] capable of countering Western democracy promotion efforts and filling what one top adviser now saw as a dangerous "ideological vacuum."[88]

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82 Ibid.

83 Ibid., 371. Some analysts have gone a step further. Alexander Motyl argues that Putin stands at the head of what can now best be described as a fascist regime. Like other fully authoritarian systems, of which they are a sub-type, fascist governments impose strict limits on freedoms of the press, speech and assembly; they embrace capitalism but seek to retain control over the economy; they "engage in targeted violence against regime opponents and widespread coercion against the population in general." In such systems too "electoral outcomes are preordained, parliaments are rubber-stamp institutions, and judiciaries do what the leader tells them." What distinguishes fascist regimes from their authoritarian brethren is that they are led by charismatic "strong men," dictators who surround themselves with the trappings of a personality cult but appear nevertheless to enjoy genuine, widespread popular support. Alexander J. Motyl, "Putin's Russia as a Fascist Political System," *Communist and Post-Communist Studies* 49 (2016): 30.

84 Vladimir Putin, "Russia at the Turn of the Millennium," *Nezavisimaia gazeta* (December 30, 1999). Translated in Putin's 2000 autobiography, *First Person*, http://pages.uoregon.edu/kimball/Putin.htm.

85 Mark Galeotti and Andrew S. Bowen, "Putin's Empire of the Mind: How Russia's President Morphed from Realist to Ideologue—And What He'll Do Next," *Foreign Policy*, April 21, 2014, http://foreignpolicy.com/2014/04/21/putins-empire-of-the-mind/.

86 Vitali Silitski, "'Survival of the Fittest:' Domestic and International Dimensions of the Authoritarian Reaction in the Former Soviet Union Following the Colored Revolutions," *Communist and Post-Communist Studies* 43 (2010): 344.

87 Evgeny Finkel and Yitzhak M. Brudny, "Russia and the Colour Revolutions," *Democratization* 19, no. 1 (2012): 27.

88 Sergei Markov, quoted in Lucas, *The New Cold War*, 133.

Beginning in 2006, Moscow launched "a powerful ideological offensive against the West," centered initially on the concept of "sovereign democracy."[89] As the label suggests, the essential idea here was that Russia, like any other nation, was entitled to create its own form of rule, one in harmony with its unique history, culture, and traditions. Thus, while the liberal West stressed the importance of individual liberty, Russia preferred arrangements that reflected its experiences with collectivism and a strong state.[90] In itself, this formulation might have amounted to little more than an appeal for tolerance and diversity, but from the start it was coupled with ugly allegations about the rapacious character and hostile intentions of the Western nations, led by the United States. In a series of speeches, Putin referred to the Americans, in particular, as "Comrade Wolf," comparing them to old-fashioned, pith-helmet-wearing colonialists and even to the Nazis.[91] This emotional language was deliberately inflammatory and it was aimed above all at a domestic audience. As Vladimir Shlapentok explains, the Kremlin had come to see xenophobia as "the best way to legitimize its regime and avert the dangers posed by domestic oppositional forces."[92] Writing in 2007, Lilia Shevtsova concluded similarly that "searching for enemies and casting the West in the role of the principal foe has turned out to be the most successful method for rallying the people . . . Anti-Western sentiment has become the new national idea."[93]

Putin's illiberal, anti-Western ideological stance has hardened further since his resumption of the role of president in 2012. In the wake of the public demonstrations that marred his return to office, Putin saw the need to refresh his connection to the Russian public (and especially his "base") by advancing "a unifying set of ideas that would appeal to the maximum number of people."[94] Deploying concepts and language first developed in the 1990s and early 2000s by some conservative intellectuals, Putin began to advance the view that Russia was a "state-civilization," a "distinct cultural entity, not just a sovereign power," bound together largely (though not exclusively) by shared ethnicity and a common religion.[95] Not only were Russia's distinctive economic and political institutions under attack, so too were its culture and its deepest moral values. In Putin's formulation, the "Euro-Atlantic" states have rejected their own "Christian roots" and are now committed to a program of "political correctness" in which all traditional forms of identity, "national, religious, cultural, and even gender . . . are being denied or relativized." Christian holidays are being abolished, belief in God made "equal to faith in Satan" and children systematically exposed to "the propaganda of paedophilia." With the West in a deep "demographic and moral crisis," Russia has no choice but to

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89 Vladimir Shlapentokh, "Perceptions of Foreign Threats to the Regime from Lenin to Putin," *Communist and Post-Communist Studies* 42 (2009): 317.

90 Ibid., 28.

91 Lucas, *The New Cold War*, 134.

92 Shlapentokh, "Perceptions of Foreign Threats," 316.

93 Lilia Shevtsova, "Anti-Westernism Is the New National Idea," *Moscow Times*, April 7, 2007. (Accessed at the website the of the Carnegie Moscow Center, http://carnegie.ru/2007/08/07/anti-westernism-is-new-national-idea-pub-19480.)

94 Hill and Gaddy, *Mr. Putin*, 254.

95 See Andrei Tsygankov, "Crafting the State-Civilization: Vladimir Putin's Turn to Distinct Values," *Problems of Post-Communism* 63 (2016): 146–58. In the interest of preserving unity among the various ethnic and religious groups that make it up, Putin has never embraced the vision of a purely Russian, Christian nation.

take whatever steps necessary, both at home and along its frontiers, to "defend and preserve" its "Christian moral values."[96]

[96] "Putin Criticizes Western Countries for Abandoning Christian Roots," *Free Republic*, December 28, 2016, http://www.freerepublic.com/focus/f-news/3508713/posts.

Chapter 2

Drivers

Chapter 2: Drivers

Over the course of the past decade, both Russia and China have begun to behave more assertively toward their immediate neighbors and, to varying degrees, toward the United States and the other advanced industrial democracies as well. What can explain this pattern and what is the connection (if any) between the evolution of the Russian and Chinese domestic political systems and their more aggressive external postures? Before addressing these issues it is necessary to acknowledge two potential objections.

While the characterization of Russian behavior as assertive or aggressive is relatively uncontroversial, at least in the early part of the 2010s some American analysts challenged the notion that China's actions answered to the same description. Such claims have become more difficult to sustain with the passage of time, and especially since the rise of Xi Jinping. To take only the most obvious example, China's declaration of an Air Defense Identification Zone (ADIZ) over the East China Sea at the end of 2013 and its construction of artificial islands in the South China Sea starting in 2014 are widely considered by observers in the region to mark a new phase in Beijing's prosecution of its long-standing maritime disputes. Many Chinese commentators agree and, in recent years, some have even argued that their leaders were not being assertive *enough* in defending the nation's interests.[97]

Assuming that Chinese and Russian behavior has, in fact, become more assertive, it is possible that this shift can be explained primarily with reference to geopolitical factors, namely changes in relative material power and considerations of physical security that have little or nothing to do with domestic politics or ideology. Some adherents of the so-called "realist" school of international relations theory would go so far as to argue that these internal factors are essentially irrelevant and that any state in roughly the same circumstances would have behaved in similar fashion, regardless of regime type. It is, of course, impossible to know with certainty how Russia and China would have acted if each had possessed liberal democratic rather than authoritarian capitalist institutions. On close inspection, however, it seems clear that the policies of both states were determined by a combination of internal and external factors rather than by one set of factors alone. In other words, while Russian and Chinese behavior has undoubtedly been shaped by geopolitical considerations, the way in which the leaders of each state weighed shifts in relative power, assessed threats, and defined interests and objectives was heavily influenced by the character of their respective regimes.

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[97] Regarding the Western debate over Chinese assertiveness, see Alastair Iain Johnston, "How New and Assertive is China's New Assertiveness?" *International Security* 37, no. 4 (Spring 2013): 7–48; Aaron L. Friedberg, "The Sources of Chinese Conduct: Explaining Beijing's Assertiveness," *Washington Quarterly* 37, no. 4 (Winter 2015): 133–50. Regarding the discussion inside China, see Jinghan Zeng, Yuefan Xiao, and Shaun Breslin, "Securing China's Core Interests: The State of the Debate in China," *International Affairs* 91, no. 2 (2015): 245–66.

Resentment

Chinese and Russian leaders frequently express resentment, both at the humiliations inflicted on their countries in the past and at the contemporary inequities that they see as deriving directly from those earlier injustices. Are these sentiments genuine or are they manufactured for purposes of mobilizing domestic support and perhaps also to gain a psychological edge in exchanges with foreign interlocutors? In the end, the answer to this question probably does not matter very much; sincere or otherwise, these themes dominate official discourse in both countries. Still, while the emotional language used to discuss the past is clearly meant to shape the thoughts and stir the feelings of their own people, there is little reason to doubt that these leaders too share many of the sentiments to which they give voice.

This seems especially likely to be true of Russia's elites, for whom the disastrous events of the 1980s and 1990s were formative life experiences. The inefficiency, declining living standards, and foreign policy defeats of the late Soviet period were embarrassing enough, but at least these could be regarded as self-inflicted wounds. In retrospect, however, the Soviet Union's loss of its East European empire and its own collapse and fragmentation have come to be seen as outcomes imposed on Russia by a victorious and vindictive foe. The enforced geographical division of the Russian people and their unaccustomed role as ethnic minorities in newly created states is especially galling. Vladimir Putin's 2005 comment that the Soviet collapse was "the greatest geopolitical catastrophe of the 20th century" and a "genuine tragedy" for Russia make clear his rejection of the moral basis for the post-Cold War map of Europe.[98] Putin's subsequent statements, including a 2014 speech to the Russian parliament, have elaborated on the precise nature of that tragedy: "Millions of people went to bed in one country and awoke in different ones, overnight becoming ethnic minorities in former Union republics, while the Russian nation became one of the biggest, if not the biggest ethnic group in the world to be divided by borders."[99]

The decade of impoverishment and disorder that followed the Soviet collapse is a further source of humiliation and resentment, especially to the extent that these misfortunes can be blamed on the mistaken (and perhaps nefarious) advice of Western experts. Moscow's inability to prevent the eastward expansion of NATO and the European Union, the West's perceived role in fomenting the "Color Revolutions" and, most recently, its imposition of tough sanctions following Russia's annexation of Crimea and its intervention in the Ukraine have all added insult to injury. In Moscow's view, the United States and its allies are conspiring to keep Russia down and are reverting to the methods of the Cold War in order to do so. As Putin explained in his 2014 state of the union address to the Russian people, "The policy of containment was

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[98] "Putin: Soviet Collapse a 'Genuine Tragedy,'" *NBC News*, April 25, 2005, http://www.nbcnews.com/id/7632057/ns/world_news/t/putin-soviet-collapse-genuine-tragedy/#.V-lBJMcTvWY.

[99] "Transcript: Putin Says Russia Will Protect the Rights of Russians Abroad," *Washington Post*, March 18, 2014, https://www.washingtonpost.com/world/transcript-putin-says-russia-will-protect-the-rights-of-russians-abroad/2014/03/18/432a1e60-ae99-11e3-a49e-76adc9210f19_story.html.

not invented yesterday. It has been carried out against our country for many years. Whenever someone thinks that Russia has become too strong or independent, these tools are quickly put into use."[100]

Beyond the nation's immediate frontiers, despite their often-vociferous objections, successive Russian governments have been powerless to block U.S.-led interventions in the Balkans and the Middle East. The freewheeling, unconstrained use of force by the United States is seen as the most troubling and dangerous consequence of an unbalanced, unipolar world in which there is "one master, one sovereign." Arrogant and emboldened, Washington has "overstepped its national borders in every way," "plunging the world into an abyss of permanent conflicts."[101] These displays of American power have also, of course, provided the occasion for repeated and humiliating demonstrations of Russian impotence.

Last but not least, since the end of the Cold War, the United States and the West more generally are seen to have adopted a posture of condescension and moral superiority toward Moscow. In addition to treating it as a second-class state, over the last twenty-five years the Western nations have lectured Russia incessantly about the inadequacies of its economic and political systems, its harsh and sometimes murderous treatment of dissidents, and more recently, about the brutality of its foreign policy adventures in Syria and the Ukraine. This steady stream of invective is presented to the Russian people as hypocritical in light of the West's own crimes and abuses, but also as part of a continuing effort to keep them in a position of inferiority and subservience. As Putin complained in a 2007 speech, "We are constantly being taught about democracy. But for some reason those who teach us do not want to learn themselves."[102]

In sum, Russia today is a dissatisfied power whose leaders resent and object to the lack of respect and deference with which they are treated, the borders that have been drawn along their frontiers, the regional institutions that intrude into what they regard as their sphere of influence, the overbearing global power of the United States, and the entire American-designed, Western-led, post-Cold War order, which they now openly denounce as undemocratic and unjust.[103]

As we have seen, the CCP's legitimating narrative places great emphasis on the harm done to China before most people living today were born. Nevertheless, while the "century of humiliation" may have ended in 1949 with the founding of the People's Republic, official resentment at China's perceived mistreatment by other powers, and dissatisfaction with the international order that emerged at the end of the Second World War, did not. To the contrary, China's leaders have never accepted the legitimacy of that order, regarding it from the start

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[100] James Marson and Andrey Ostroukh, "Russia's Putin Accuses West of Provoking Ukraine," *Wall Street Journal,* December 4, 2014.

[101] Putin's speech at the 2007 Munich Security Conference, as quoted in Angela E. Stent, *The Limits of Partnership: U.S.-Russian Relations in the Twenty-First Century* (Princeton: Princeton University Press, 2014), 147.

[102] Ibid.

[103] See "Lavrov Calls for 'Post-West' World Order; Dismisses NATO as Cold War Relic," *Deutsche Welle,* February 18, 2016, http://www.dw.com/en/lavrov-calls-for-post-west-world-order-dismisses-nato-as-cold-war-relic/a-37614099.

as "a rigged system set up by the imperial victors of the last round of bloodshed to perpetuate the power of its winners."[104]

With the onset of the Cold War, U.S. officials refused even to acknowledge the existence of the People's Republic. On one widely reported occasion, Secretary of State John Foster Dulles went so far as to refuse to shake the hand of his Chinese counterpart, Chou En-lai, on encountering him at a peace conference in Geneva. This was a slight to which Chou would refer repeatedly over fifteen years later, in his first meetings with President Richard Nixon.[105] More serious than such gestures was the fact that, for the better part of a quarter-century, the United States waged all-out economic warfare against China, doing everything possible to deny it capital, technology, and access to international markets in an attempt to stunt its growth and destabilize its regime.[106] With a similar purpose in mind, Washington also provided aid and encouragement throughout much of this period to groups seeking to conduct covert operations and even to wage guerrilla warfare on Chinese-controlled territory.[107]

As part of its policy of containment, the United States entered into military alliances with countries across North and Southeast Asia, including Japan, the hated perpetrator of recent aggression against China, and Taiwan, regarded by Beijing as a breakaway province, but which the Americans insisted on treating as the rightful seat of Chinese sovereignty. America's power, and its alliances, thus prevented the final reunification of the Chinese people, prolonging the effects of the century of humiliation and making the United States, in effect, an accessory after the fact in the historic crimes of others. The resumption of contact between Washington and Beijing in the early 1970s, the subsequent establishment of formal diplomatic relations at the end of the decade, and the start of U.S. and Western investment and technology transfer to China eased things somewhat, but they did not remove this fundamental source of resentment. Even as it "de-recognized" the government in Taipei, removed its forces from the island, and ended formal defense ties, the United States continued to provide Taiwan with military backing and it insisted on maintaining alliances and forward bases elsewhere in the region, which, in Beijing's view, were aimed at least as much at containing China as they were at balancing the Soviet Union.[108]

Despite the dramatic acceleration of trade and investment that began in the 1990s, the remarkable expansion of China's own wealth and power, and the broadening and deepening of its engagement with the West across all fronts, official expressions of resentment have grown more varied and, in certain respects, even more vociferous since the end of the Cold War. Old affronts still rankle and, with China's growing power and rising expectations, new ones have now been

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[104] T. Greer, "China Does Not Want Your Rules Based Order," *Scholars Stage*, http://scholars-stage.blogspot.com/2016/06/china-does-not-want-your-rules-based.html.

[105] Margaret Macmillan, *Nixon and Mao: The Week That Changed the World* (New York: Random House, 2007), 30, 110.

[106] See Shu Guang Zhang, *Economic Cold War: America's Embargo against China and the Sino-Soviet Alliance, 1949–1963* (Stanford: Stanford University Press, 2001).

[107] See, for example, John Kenneth Knaus, *Orphans of the Cold War: America and the Tibetan Struggle for Survival* (New York: Public Affairs, 1999).

[108] Regarding the United States and Taiwan, see Alan D. Romberg, *Rein in at the Brink of the Precipice: American Policy Toward Taiwan and U.S.-PRC Relations* (Washington DC: Henry Stimson Center, 2003).

added to the list. Annoyance at U.S. support for Taiwan continues, peaking periodically when American interference in China's "internal affairs" is perceived to have been especially brazen and egregious. As China's own capabilities for power projection have grown, so too have its objections to the longstanding American practice of conducting air and naval patrols up and down its coasts.[109] Since the turn of the century, the Chinese government has become increasingly outspoken in accusing the United States of violating its unique interpretation of the international law of the sea, under which it claims that no foreign military vessel can operate within 200 miles of China's coasts without first requesting permission.[110] When it was weaker, Beijing had no choice but to suffer in silence; now that its strength has grown, it feels able, and perhaps even compelled, to react more forcefully.

U.S. alliances, once dismissed as relics of the Cold War, have more recently been described as active and dangerous contributors to regional instability.[111] Washington is portrayed in official statements and semi-official commentary as the not-so-hidden hand behind the efforts of various smaller and weaker powers to stand up to China in disputes over maritime issues. Whereas at one time the U.S.-Japan alliance might have been seen as a "cork in the bottle," restraining resurgent Japanese militarism, now the United States appears to be aiding and abetting Tokyo's reemergence as a "normal power" eager to check China's ambitions. Since the 1990s, Chinese commentators have accused the United States of trying to stoke the fears of regional states by promulgating the "so-called China Threat Theory."[112] Recent talk of an American "pivot" or "rebalance" to Asia has been met with accusations that the United States never abandoned its intention to contain China, block its rise, and envelop it in a "C-shaped encirclement" extending from the Korean peninsula to the Indian Ocean.[113]

Like their Russian counterparts, Chinese officials resent and have dwindling patience for the condescending moralizing and active meddling to which they believe they have been subjected by the United States and its democratic allies. Even after the Clinton administration abandoned its initial attempts to link trade to China's performance on human rights issues, American diplomats and political figures continued to harangue Beijing about its shortcomings and abuses. Sanctions were replaced by less tangible but still infuriating and humiliating rituals in which the United States, other Western countries, and even NGOs sought to challenge China's moral standing, including the publication of annual reports on human rights conditions, regular visits between political leaders and the Dalai Lama, and the awarding of prizes and honors to noteworthy and visible dissidents. On political as well as economic issues, China was portrayed as

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[109] See Robert C. O'Brien, "China's Rising Navy Is Increasingly 'Assertive' At Sea," *E-International Relations*, November 16, 2011, http://www.e-ir.info/2011/11/16/china's-rising-navy-is-increasingly-"assertive"-at-sea/.

[110] See Jeff M. Smith, Joshua Eisenman, "China and America Clash on the High Seas: The EEZ Challenge," *National Interest*, May 22, 2014, http://nationalinterest.org/feature/china-america-clash-the-high-seas-the-eez-challenge-10513.

[111] Shi Jiangtao, "China Takes Veiled Shot at 'Destabilising' U.S. presence in the Asia-Pacific," *South China Morning Post*, June 5, 2016.

[112] "Beijing Battles U.S. 'China Threat' Theory," *CNN*, March 6, 2001, http://edition.cnn.com/2001/WORLD/asiapcf/east/03/06/willylam.china.threat/.

[113] Huang Yingxu, "On the C-Shaped Encirclement by the U.S.," *Chinascope*, July 26, 2010, *http://chinascope.org/archives/6313/92*.

the laggard pupil of the West, a nation which, notwithstanding its stunning material success, was, as Bill Clinton publicly scolded Jiang Zemin, "on the wrong side of history."[114]

Like Russia, China too has become more open in expressing its dissatisfaction, not only with specific features of the contemporary international system but with the very principles on which it is based. As described by Chinese officials, the existing system is fundamentally unfair, it was created to serve the interests and reflect the values of the United States and its democratic allies when those countries were at the peak of their power, and it has been imposed by them for far too long on the rest of the world. But times are changing, power is diffusing, and China no longer has to accept a subordinate role as a "rule-taker" rather than a "rule-maker." As former Vice Foreign Minister Fu Ying acknowledged in a 2016 speech, China has "never fully embraced" an order based, among other things, on "American or Western values" and U.S.-led alliances. To the contrary, "China has long been alienated politically by the western world" and, in ways that are as yet unspecified, it now seeks to play a role in "re-shap[ing] the order structure."[115]

Ambition

Respect is a salve for resentment and prestige can be an antidote for humiliation. Whatever material ends Moscow and Beijing may pursue, they are also clearly motivated by the desire for less tangible goods: for status, recognition, and acknowledgment of what they see as their proper standing in the world. The leaders of both countries appear genuinely to believe that they have been mistreated and disrespected by the West. This is certainly what they tell their people. To compensate for past periods of weakness, they seek opportunities to demonstrate their renewed power; to alleviate the sting of past slights, they demand displays of deference from those whom they accuse of having done them wrong.[116]

In addition to their shared desire for respect, Moscow and Beijing have more concrete goals that are also broadly similar. While they are cautious about saying so directly, both the Russian and Chinese regimes seek to establish their countries as the preponderant power in their respective regions; both also wish to be acknowledged as "great powers" or "poles" in a multipolar world, with global as well as regional interests; and both seek changes in what they regard as an unjust, Western-dominated international system.

Russian and Chinese attitudes toward the prevailing order have already been touched upon briefly above. While neither nation has yet laid out a detailed program for reforming existing

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[114] William Neikirk and David S. Cloud, "Clinton: Abuses Put China 'On Wrong Side of History,'" *Chicago Tribune*, October 30, 1997.

[115] "Full Text: Fu Ying's speech at Chatham House in London," *China Daily*, July 8, 2016, http://www.chinadaily.com.cn/world/cn_eu/2016-07/08/content_26021696.htm.

[116] See Deborah Welch Larson and Alexei Shevchenko, "Status Seekers: Chinese and Russian Responses to U.S. Primacy," *International Security* 34, no. 4 (Spring 2010): 63–95; Olga Malinova, "Obsession with Status and *Ressentiment*: Historical Backgrounds of the Russian Discursive Identity Construction" *Communist and Post-Communist Studies* 47 (2014): 291–303.

rules and institutions, both have expressed dissatisfaction with arrangements that they see as having been designed by, and for the benefit of, the Western powers, led by the United States. As regards their desire for great power status, Moscow and Beijing's preferences are readily apparent in their critiques of "unipolarity" and their expressions of enthusiasm for the more "democratic," multipolar world that they now see emerging. As the Kremlin's 2016 foreign policy concept paper explains, "The world is currently going through fundamental changes related to the emergence of a multipolar international system. Global power," it asserts, is becoming increasingly decentralized, thereby "eroding the global economic and political dominance of the traditional western powers." In the face of these trends, unnamed nations are nevertheless attempting to preserve their privileged positions "by imposing their point of view on global processes" and seeking "to contain alternative centres of power." This is an approach that can only lead to "growing turbulence on the global and regional levels." In response, the Russian Federation must strive "to consolidate [its] position as a centre of influence in today's world."[117]

Chinese officials use strikingly similar language to describe the current situation. According to the 2015 defense white paper, "global trends toward multi-polarity" are "intensifying," leading to "historic changes in the balance of power [and] global governance structure." While the general direction of events is favorable, new threats are emerging from the forces of "hegemonism, power politics, and neo-interventionism" (i.e., from the United States and its allies). These challenges make it all the more important for China to complete its "modernization drive," enhancing all elements of its comprehensive national power in order to realize the "Chinese Dream."[118]

For Russians who remember the Cold War, the idea that their country should be a great power on par with the United States does not appear far-fetched or unreasonable, even if it has sometimes been difficult to see how such a position of parity could be regained. From the start of the post-Cold War period, Russian spokesmen have held fast to the view that, as then Foreign Minister Yevgeny Primakov declared in 1992, "Russia has been and remains a great power, and its policy toward the outside world should correspond to that status."[119] On taking office in 1999, Vladimir Putin echoed these sentiments using virtually identical words when he declared that "Russia was and will remain a great power."[120] Since the mid-2000s, and especially since his return to the presidency in 2012, many of Putin's foreign policy initiatives, including his interventions in Syria and Ukraine, have been widely interpreted as motivated at least in part by a desire to assert Russia's great power status, notwithstanding its continued weakness on many

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[117] Ministry of Foreign Affairs of the Russian Federation, "Foreign Policy Concept of the Russian Federation (approved by President of the Russian Federation Vladimir Putin on November 20, 2016)," December 1, 2016, http://www.mid.ru/en/foreign_policy/official_documents/-/asset_publisher/CptICkB6BZ29/content/id/2542248.

[118] "Full Text: China's Military Strategy," *Xinhua*, May 26, 2015, http://news.xinhuanet.com/english/china/2015-05/26/c_134271001.htm.

[119] Andrei P. Tsygankov, *Russia's Foreign Policy: Change and Continuity in National Identity* (Lanham MD: Rowman and Littlefield, 2016), 97.

[120] Ingmar Oldberg, "Russia's Great Power Ambitions and Policy Under Putin," in *Russia: An Emerging Great Power*, ed. Roger E. Kanet (New York: Palgrave Macmillan), 13.

measures of material power.[121]

For Beijing, on the other hand, the situation is reversed. Despite the increasingly obvious cumulative effects of their own rapid growth, until quite recently Chinese commentators have been reluctant even to acknowledge the possibility that their power might someday approximate that of the United States. To openly express such views was seen as arrogant and, because it might provoke alarm and stimulate an American counter-reaction, potentially dangerous.

Here too, as in other areas of rhetoric and policy, Xi Jinping's rise has brought significant change. Even before he was elevated to the top positions in the Party-state, Xi advanced the notion that China should seek to build a "new type of great power relationship" with the United States. This phrase has since become a central theme in his foreign policy proclamations. At a minimum, the offer of a "new type" of relationship appears designed to gain tacit American acceptance of the fact that the two Pacific powers are now, if not entirely equal, then at least head and shoulders above every other nation in the international system.[122] Chinese commentators have explained, more concretely, that a "new type" of relationship would be one in which each party would acknowledge, respect, and refrain from infringing upon the "core interests" of the other.[123] Because the precise content of the concept of "core interests" remains ill-defined, it is not entirely clear what this would mean in practice, but as one American analyst suggests, it appears likely that what Beijing seeks ultimately is "U.S. recognition of a privileged Chinese sphere in Asia and assurance that Washington will not intervene in the region—politically and militarily—contrary to China's interests. "[124]

This last point brings us back to the question of how China and Russia define their goals within their respective regions. Albeit to varying degrees, Chinese and Russian officials have been circumspect on this issue, not least because to acknowledge a desire for preponderance would run counter to the claim that they prefer a more "democratic" international order. While a democratic system at the global level may perhaps be acceptable, both Moscow and Beijing clearly believe that within the major regions of the world, hierarchy is the proper order of things. In the multipolar world that both say they seek, each power (or, in the Russian phrase, each "center of influence") would naturally be surrounded by its own sphere, an area in which it would exert a dominant voice, even if it could not exercise absolute control.

China's vision for itself emerges obliquely from the notion that achieving the "China Dream"

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[121] For an upbeat assessment of Moscow's success in this regard, see "Time to Admit: Russia Is the 'Great Power That Refuses to Go Away,'" *Sputnik International*, April 22, 2016, https://sputniknews.com/analysis/201604221038430135-russia-great-power/. For a more sober appreciation, see Kathleen J. Hancock, "Russia: Great Power Image Versus Economic Reality," *Asian Perspective* 31, no. 4 (2007): 71–98.

[122] For interpretations, see Jinghan Zeng and Shaun Breslin, "China's 'New Type of Great Power Relations': A G2 with Chinese Characteristics," *International Affairs* 92, no. 4 (July 2016): 773–94; Andrew S. Erickson and Adam P. Liff, "Not-So-Empty Talk: The Danger of China's 'New Type of Great-Power Relations' Slogan," *Foreign Affairs*, October 9, 2014.

[123] Caitlin Campbell and Craig Murray, "China Seeks a 'New Type of Major-Country Relationship with the United States," Staff Research Backgrounder, U.S.-China Economic and Security Review Commission, June 25, 2013.

[124] Paul Mancinelli, "Conceptualizing 'New Type Great Power Relations': The Sino-Russian Model," *China Brief* 14, no. 9 (May 7, 2014), http://www.jamestown.org/single/?tx_ttnews%5Btt_news%5D=42332&no_cache=1#.V3P_U8da7WY.

requires the "great rejuvenation of the Chinese nation." As Zheng Wang points out, rejuvenation or renewal suggests that China is "regaining . . . lost international status and power rather than obtaining something entirely new." Moreover, in this context, the recovery of what was lost suggests a return to the proper order of things. Thus, "the Chinese consider the process of rejuvenation as a restoration of fairness instead of a gain of advantages over others."[125] China is not simply getting richer and stronger; it is being restored to its rightful place in the world. How should that place be defined? Prior to intrusions by the West, China was for many centuries the preponderant power in East Asia, the "Middle Kingdom." At a minimum, rejuvenation would seem to require the recovery of that central position. While government officials are rarely this blunt, some well-connected commentators are not as reticent. Thus, according to Shi Yinhong, counselor of the State Council and professor at Renmin University, Xi Jinping's goal is "for China to take on a dominant role in the Asia and Western Pacific area," weakening and "ultimately abolish[ing] U.S. dominance in the region."[126] Former CIA analyst Christopher Johnson reaches a similar conclusion: "The great rejuvenation means that the PRC by 2049 intends to restore itself to a regional positional of primacy."[127]

China seeks the restoration of a regional order that is historically distant, shrouded in myth, and hence rather vaguely defined. For Russia, on the other hand, the past is close at hand, the outlines of an earlier order are readily discernible and, in part for that reason, the country's leaders have tended to be blunter in stating which parts of it they wish to restore. While Russian strategists would no doubt like to regain some of their past influence in Eastern Europe, none seriously entertains the thought that the former members of the Warsaw Pact will ever be reintegrated into a post-Soviet empire. Closer to home, however, Moscow's ambitions are greater, even though they have only been partially fulfilled to this point.

Before the dust from the Soviet collapse had even settled, Russians of all persuasions had begun to argue that, despite the redrawing of the map, their newly diminished nation was still entitled to play a dominant role in what came to be referred to as the "near-abroad"—the fourteen former Soviet republics that overnight had also become independent states. At least initially, as Angela Stent explains, most Russians did not even consider these to be "real foreign countries," but saw them instead as fragments of a larger organic whole. Reflecting this view, the first post-Soviet ambassador to the United States remarked that relations between Russia and the former republics "should be treated as identical to those between New York and New Jersey."[128]

While this kind of thinking has faded with the passage of time, successive Russian regimes have nevertheless held to the view that, especially along its western frontier, their country is entitled to a sphere of influence by virtue of its size, history, and cultural connections.[129] Moscow has

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[125] Zheng Wang, "The Chinese Dream: Concept and Context," 9.
[126] Shi Yinhong, "The Latest Transfer in China's Foreign Strategy: from 'Military Strategy' to 'Economic Strategy,'" *China International Relations* 25, no. 2 (March/April 2015): 52.
[127] Christopher Johnson, "Decoding China's Emerging 'Great Power' Strategy in Asia," 17.
[128] Stent, *The Limits of Partnership*, 18–19.
[129] See Allen C. Lynch, "The Influence of Regime Type on Russian Foreign Policy toward 'the West,' 1992–2015," *Communist and Post-Communist Studies* 29 (2016): 101–11.

been willing to use both "soft" and "hard" power in pursuit of this objective. The desire to solidify its position in the near abroad drove Russian proposals to strengthen commercial and political ties among the Commonwealth of Independent States in the 1990s and, more recently, to encourage the creation of the Eurasian Economic Union (EEU). Russia failed to prevent the former Baltic republics from moving out of its orbit and into that of the West. But it has been willing to use force to prevent similar developments elsewhere along its frontiers, including in Georgia in 2008 and most recently in Ukraine in 2014. Aside from the more elaborate, and more diplomatically palatable, justifications offered by Moscow, the underlying rationale for these interventions was accurately conveyed in the wake of the conflict in Georgia by then president Dmitry Medvedev: "Russia, just like other countries in the world, has regions where it has privileged interests."[130]

Russia and China are revisionist powers, discontented, ambitious, and eager for change. But this has been true for the better part of two decades. What can account for the increased assertiveness that has been evident from both over the last several years? The answer in each case involves a mix of opportunism and insecurity. The latter factor will be discussed at greater length in the next section. With regard to the first, during the second half of the first decade of the twenty-first century, both Moscow and Beijing reached the conclusion that their national power was increasing while that of the United States and its allies was in decline. These perceived favorable trends enhanced both countries' freedom of action and presented them with opportunities to pursue their longer-term ambitions, which they then sought to exploit.

In the Russian case, the decisive factor was the dramatic run-up in energy prices that began after the turn of the century and continued for the better part of a decade. Increased global demand for energy put Moscow in a better position to exert leverage over its customers in Europe, boosted Russia's overall growth rate, and because the state owned some of the biggest producers and was well positioned to tax the rest, caused cash to pour into the Kremlin's coffers. Putin used these funds to pay down the great mass of external debt that Russia had taken on since the Soviet collapse, to finance a major buildup in its military capabilities, and to accumulate reserves of hard currency that could be used to shield itself from external economic shocks (such as the one that hit in 2008) and buy influence in foreign countries.

By 2006, Russia had erased its debts and freed itself from obligations to foreign powers and international lending institutions. Hill and Gaddy maintain that "from Putin's perspective" this was a moment of great significance and marked "the point when Russia's resurgence really began."[131] With the United States seemingly on the brink of disaster in Iraq, the tides of history seemed to be shifting. Following a reassessment of existing policies, Moscow began to move toward a tougher, more confrontational stance, a posture signaled in no uncertain terms by Putin's speech at the 2007 Munich Security Conference.[132] Russia, concluded one veteran

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[130] Paul Reynolds, "New Russian World Order: The Five Principles," *BBC*, September 1, 2008, http://news.bbc.co.uk/2/hi/europe/7591610.stm.
[131] Hilly and Gaddy, *Mr. Putin*, 317.
[132] Regarding the reassessment, see Stent, *The Limits of Partnership*, 136.

Kremlin-watcher at the time, had "left the West."[133]

One year later, in the summer of 2008, Moscow invaded Georgia, ostensibly to protect pro-Russian populations in two breakaway provinces, but with the larger aim of preventing the country from proceeding down the path toward NATO membership and full integration with the West. After a decade and a half of drift, Russia had taken decisive action to prevent a further loss of control over events in its "near-abroad." While the operation was unimpressive from a purely military standpoint, it did achieve its larger strategic objectives. According to one post-war analysis, "Moscow was able to use military force to thwart Tbilisi's attempt to regain control over the breakaway South Ossetia region, massively damage the Georgian armed forces, break the momentum of NATO enlargement in the Caucasus, and humiliate a close U.S. ally with virtual impunity."[134] The Obama administration's subsequent decision to pursue a "reset" with Russia only a few months after the invasion did nothing to alter Moscow's assessment of U.S. resolve. To the contrary, this move was evidently interpreted as an acknowledgment by the Americans that their policies were to blame for the sharp deterioration in relations.[135]

China's appreciation of its future prospects began to shift in 2008–2009 with the onset of the global financial crisis. Once it became clear that China would be able to navigate the worst effects of the crisis, sustaining demand with a dramatic expansion in public spending, Chinese analysts began to focus on the lingering damage that the crisis had inflicted on the West. Most quickly reached the conclusion that the near-collapse of the advanced industrial economies marked a significant acceleration in the long-term trends that for some time had been pointing toward the emergence of a more "democratic," multipolar international system. Henceforth, China would be able to rise even faster than had been anticipated at the turn of the century, while the relative power of the West—and of the United States in particular—would decline more quickly than most observers had thought possible. "The global financial crisis of 2008 let China's international status rise rapidly," concluded one Chinese scholar in 2010.[136] In the aftermath of the crisis, wrote another, "China has made a historic leap in comprehensive national power and international influence and has become a target for other countries to rely upon and cozy up to."[137] Suisheng Zhao observes that the 2008 crisis boosted the self-regard of China's leaders while reducing the once haughty West (led by the always arrogant Americans) to a "gratifying target for pent-up contempt."[138]

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133 Dmitri Trenin, "Russia Leaves the West," *Foreign Affairs* 85, no. 4 (July/August 2006): 87–96.

134 R. Craig Nation, "Results of the 'Reset' in US-Russian Relations," (Paris: IFRI, July 2010), 5.

135 "From the Russian point of view, the Obama reset was an American course correction, an admission that the American side was responsible for the deterioration in bilateral ties." Stent, *The Limits of Partnership*, 212.

136 Zhao Kejin,"Zhongguo duiwai zhanlüe de zhuanxing he tiaozheng" [China's foreign strategy's transformation and adjustment], *Xuexi Shibao* [Study times], August 30, 2010, http://theory.people.com.cn/GB/12583015.html.

137 Pan Zhongqi, "Cong 'suishi' dao 'moushi'—Youguan Zhongguo jinyibu heping fazhan de zhanüe sikao" [From 'tide-surfing' to 'tide-making'—some thoughts related to China's strategy for further peaceful development], *Shijie Jingji yu Zhengzhi* [World economy and politics], no. 2 (2010).

138 Suisheng Zhao, "Chinese Foreign Policy as a Rising Power to Find its Rightful Place," *Perceptions* 18, no. 1 (Spring 2013): 104. Taken in combination with China's recent success at the 2008 Beijing Olympic games, the Wall Street collapse and its aftermath created what one Western analyst describes as "a perfect storm of geopolitical symbolism," feeding the sense that China's was now unstoppable. Christopher A. Ford, *China*

In addition to its purely psychological effects, the global financial crisis set the stage for significant changes in the theory and practice of China's grand strategy. At the purely theoretical level, Chinese scholars and officials engaged in a prolonged debate over whether the time had finally come to abandon Deng Xiaoping's cautious "24-character strategy"[139] in favor of something more forward-leaning and assertive. While these arguments were not resolved during the remainder of Hu Jintao's time in office, once Xi came to power he quickly embraced the idea that, instead of "hiding and biding," China should henceforth advance more boldly under the banner of "striving for achievement."[140]

In terms of the actual substance of foreign policy, starting in 2009–2010, Beijing began to adopt a more confrontational stance, most notably in its maritime disputes in both the South and East China Seas. These actions provoked an American counter-reaction in the form of the Obama administration's much-touted "pivot." While uncertainty over the full extent of the likely U.S. response may have induced some initial caution, many Chinese analysts appear to have assessed that, whatever its intentions, the Obama administration likely lacked the resources, and the resolve, to follow through fully on its promises. In any event, Xi Jinping evidently concluded that it was better to push ahead than to back off, and his rise was accompanied by a notable stiffening in China's posture and an escalation in its policies.

Insecurity

Russian and Chinese leaders describe their countries as being confronted by very similar threats. In the Chinese case, these assessments are of long standing and have changed relatively little since the end of the Cold War. Russian views, on the other hand, have evolved over time, hardening markedly with the accession of Vladimir Putin and his consolidation of domestic political power. Since the turn of the century Chinese and Russian threat perceptions have tended to converge, with the latter coming into alignment with the former.

Both Moscow and Beijing see themselves as struggling to survive in an international environment that is profoundly hostile and potentially dangerous. The threats they face are both geopolitical and ideological in nature; they are deeply rooted in the character of the contemporary international system, which in turn reflects the overweening power and selfish interests of the United States. The U.S. and its allies are perceived to be working hard to contain and even to encircle Russia and China, limiting the growth of their power, constricting their rightful

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Looks at the West: Identity, Global Ambitions, and the Future of Sino-American Relations (Lexington KY: University of Kentucky Press, 2015), 343.

[139] During the summer of 1991 Deng Xiaoping circulated a memo to top Party colleagues in which he advised that, given its position of isolation and relative weakness, China should 'hide its capabilities and bide its time.' This dictum is generally believed to have provided the basis for Chinese grand strategy from the early 1990s until the emergence of Xi Jinping in 2012-2013. For background see Dingding Chen and Jianwei Wang, "Lying Low No More?: China's New Thinking on the Tao Guang Yang Hui Strategy," *China: An International Journal* 9, no. 2 (September 2011): 195-216.

[140] For an overview of this debate by one of the leading proponents of activism, see Yan, "From Keeping a Low Profile to Striving for Achievement."

spheres of influence, and building positions of strength along their borders and off their coasts from which to conduct espionage, support subversion, and even, in the event of war, to impose blockades and launch attacks on their territory.

As we have seen, in describing this aspect of the threat from the West, Putin harkens back to the Cold War and even, on occasion, to the 1941 Nazi invasion of the Soviet Union. The expansion of NATO and the deepening animosity of the United States and its allies toward Russia are portrayed as having once again brought the threat of war to Russia's doorstep. Similarly, Chinese spokesmen refer to American alliances and forward-based forces as reflections of a "Cold War mentality" and a continuation of the policy of containment. Especially when discussing Japan, America's most important regional ally, Beijing makes frequent reference to the horrors of the Second World War, implying—even when it does not say so in so many words—that without sufficient vigilance similar crimes could once again be committed against the Chinese people. Chinese commentators also cite more distant historical events to convey the seriousness of the present danger, including of course the depredations of the imperial powers during the "century of humiliation" and, perhaps most revealing, the internecine warfare of the "Warring States" era. There are many lessons to be drawn from this succession of bloody conflicts, of which the most important is that the dominant power or hegemon in any period will naturally do whatever it can to crush potential challengers before they can grow too strong. Little imagination is required to discern who plays what role in the modern remake of this ancient drama.[141]

Threats that derive primarily from calculations of power politics are made more complex and more dangerous by differences in ideology. Thus, the United States and its liberal democratic partners seek not only to counter and contain Russian and Chinese power from without but to undermine their regimes from within. Claiming that their own systems are based on universal values, the Americans and their Western allies do not truly accept the legitimacy and equality of governments that espouse different principles, whether "socialism with Chinese characteristics" or Russia's distinctive brand of "sovereign democracy." Western arrogance in this regard is philosophically objectionable but also strategically menacing. Despite espousing the virtues of "tolerance" and "diversity," the West presumes to sit in judgment on those who dare to take a different path. Worse still, with the United States in the lead, the Western powers believe they have the right, and perhaps even the obligation, to try to change those forms of government that do not conform to their views.

Since the late 1980s, if not before, China's leaders have been convinced that the West was attempting to promote the "peaceful evolution" of their political system. Despite its benign-sounding label, in official parlance, this term refers to a process of infiltration aimed at weakening and eventually bringing about the downfall of the Chinese Communist Party. Needless to say, such a catastrophe would have devastating, and possibly even fatal, consequences for top CCP figures and their families. The threat of "peaceful evolution" is thus a very personal one

[141] See Yan Xuetong, *Ancient Chinese Thought, Modern Chinese Power* (Princeton: Princeton University Press, 2011), 107–44.

to China's rulers.

Whereas during the Cold War the democracies sought to weaken China by isolating it and bombarding it with propaganda, in recent decades they have adopted a more subtle and insidious approach. As Deng warned, when China joined the global economy, it opened the window to "flies" in the form of seductive ideas and corrupting influences. What he did not say, but knew very well, was that economic growth and engagement with the West could also change the Chinese people, causing them eventually to demand political rights commensurate with the freedoms they had learned to enjoy in the economic realm. Far from concealing their intentions, the post-Cold War rhetoric of America presidents made clear that this was precisely what they had in mind. "Soft" subversion aside, since Tiananmen, Beijing has also feared that the Western powers would use "active measures," providing aid and encouragement to dissidents and "anti-regime elements" in order to destabilize China and weaken CCP rule.

China started out closed and proceeded to open cautiously, and partially, to the West. At the end of the Cold War, Russia began by dramatically lowering virtually all barriers, economic and political, and has since become progressively more suspicious and repressive. Under Yeltsin, and even at the start of Putin's reign, Moscow's official position was that it sought not merely to trade with the West but to join it fully by embracing "supra-national universal values" including, as Putin put it in 1999, "freedom of expression, freedom to travel abroad and other fundamental political rights and human liberties."[142] The regime's fears of subversion, and its search for an alternative ideology, grew more intense and urgent over time as it became increasingly alienated from the West, triggering a downward spiral of mutual animosity and mistrust. As Putin tightened his grip, arresting oligarchs and stifling the press, he faced mounting criticism from foreign governments, which in turn heightened his suspicions about their intentions. The "Color Revolutions" of 2003–2005, the Bush administration's implementation of regime change in Iraq, and its subsequent commitment to a "freedom agenda," under which it pledged to promote the spread of democracy around the world, combined to raise these fears to new heights.[143] The overthrow and subsequent execution of Muammar Qaddafi in 2011 and the anti-Kremlin, pro-democracy protests that took place in Moscow later that year hardened Putin's conviction that Western-led subversion threatened his regime and even his life.[144]

As is true of their expressions of outrage and resentment over past humiliations, the concerns about encirclement and subversion to which Russian and Chinese leaders give voice are both sincere and instrumental. There is little doubt that Moscow and Beijing see the United States and its allies maneuvering against them externally, and none whatsoever that they are fearful of efforts to weaken them from within. But public warnings about these dangers also serve a useful purpose. The claim that there are "enemies within" who must be rooted out before they can implement their evil plans provides a justification for stepped-up surveillance, crackdowns on

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[142] See Putin's 1999 speech, "Russia at the Turn of the Millennium."
[143] Regarding the impact of these events, see Stent, *The Limits of Partnership*, 97–123.
[144] These events are discussed in Evan Osnos, David Remnick, and Joshua Yaffa, "Trump, Putin, and the New Cold War," *New Yorker*, March 6, 2017.

NGOs, arrests of dissidents, and other harsh repressive measures. Confrontations with foreign foes can be used to rally popular support, even from portions of the populace that might not otherwise be enthusiastic backers of a regime whose policies they cannot control.

Recent increases in both Russian and Chinese assertiveness appear to have been driven by a heightened sense of internal and external threat, as well as by underlying ambitions and perceptions of strategic opportunity. This is not as paradoxical as it might seem at first glance. In the case of Russia, during the second half of the 2000s, growing confidence about the nation's economy and strategic autonomy went hand in hand with rising fears of encirclement and subversion. Events in Georgia provided the occasion for Russia to lash out, administering a lesson to a wayward former republic and reasserting its dominance in the "near abroad." But the decision to use force was also clearly motivated by fear that, if something was not done, Georgia would move more firmly into the Western camp, perhaps even joining NATO, a development that would have put a democratic American ally directly on Russia's southern border.[145]

Six years later, the boom in energy prices was clearly over and Russia's economic growth had slowed to a crawl. On the other hand, following significant post-Georgia reforms and budget increases, the nation's political leaders likely had more faith in the military capabilities available to them.[146] After four and a half years of observing and dealing with the Obama administration, Moscow may also have been confident that measured aggression on its part would not provoke a forceful response.[147] As in Georgia so too in Ukraine, the proximate cause for Russia's actions was fear of loss. The ouster of a pro-Russian leader following mass protests was troubling enough. The prospect that, with his departure, Ukraine would move irrevocably out of Russia's sphere of influence, joining the European Union rather than Putin's proposed EEU and in all likelihood eventually becoming a NATO member, made things even worse.[148]

China's increased assertiveness over the course of the last decade is also linked to heightened concerns about a combination of perceived internal threats and external challenges, as well as growing optimism about the nation's future trajectory. The impact of the financial crisis on Chinese assessments of the shifting global balance of power has already been discussed. In

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[145] The possibility of Georgia's accession to the alliance, together with the Ukraine, had been actively discussed and agreed upon in principle at a summit meeting of member countries four months before the Russian invasion. Stent, *The Limits of Partnership*, 163–76.

[146] See "Russia Raises Military Clout With Reforms After Georgian War," *Reuters*, February 27, 2014, http://www.voanews.com/a/reu-russia-raises-military-clout-with-reforms-after-georgian-war-/1860737.html. Athena Bryce-Rogers, "Russian Military Reform in the Aftermath of the 2008 Russia-Georgia War," *Demokratizatsiya* 21, no. 3 (2013): 340–68.

[147] See Julia Joffe, "How Russia Saw the 'Red Line' Crisis," *Atlantic*, March 11, 2016. Some analysts have suggested that Russia's decision to intervene in Ukraine was influenced by the fact that, a few months before, President Obama had refrained from retaliating with force when the Syrian government crossed a U.S. "red line" by using chemical weapons against its own people. Joffe quotes several Russian to the effect that, in themselves, the events in Syria had little impact on Putin. But she concludes by pointing out that, by this time, "no one in the Kremlin had any illusions about how [Obama] saw the world. His decision in Syria was not exactly shocking or out of character for the Russians, especially after the hesitation he showed in Libya."

[148] These events are discussed in detail in Rajan Menon and Eugene Rumer, *Conflict in Ukraine: The Unwinding of the Post-Cold War Order* (Cambridge: MIT Press, 2015).

addition to boosting Beijing's confidence about its long-term prospects, however, the events of 2008–2009 also aroused considerable anxiety about China's economic performance and social stability in the near to medium term. As global demand contracted and exports dropped, the nation's leaders braced for a dramatic increase in unemployment and widespread social unrest.[149] In the event, a massive injection of state spending enabled Beijing to avoid the worst effects of the crisis. But it did nothing to address the fact that the nation's growth model, with its heavy reliance on state-directed investments and exports, was unsustainable.[150] Indeed, if anything, the government's response actually exacerbated these problems.

As it wrestled with the potentially destabilizing effects of slower growth, the CCP leadership was confronted by a series of other events that seemed to highlight China's vulnerability to subversion and internal unrest: ethnic riots in Xinjiang in 2009, the awarding of the Nobel Peace Prize to a prominent dissident in 2010, the 2011 "Arab Spring," and, in 2012, the eruption of a scandal that drew public attention to corruption at the highest levels of the Party. As we have seen, Beijing responded to these developments with a domestic crackdown that intensified when Xi Jinping replaced Hu Jintao at the end of 2012. At the same time, the regime also took a series of visible and highly publicized steps that escalated its ongoing disputes in the East and South China Seas. Here too, Xi expanded upon and intensified the measures initiated by his predecessor.

This ratcheting up of tensions appears to have been motivated in part by a desire to deflect popular attention and frustration outward, at alleged foreign foes. Despite its obvious preoccupation with domestic security concerns, the CCP regime certainly did not shrink from taking steps that led to a marked deterioration in relations with several of its neighbors and ultimately with the United States as well. To the contrary, particularly under Xi Jinping, Beijing has seemed to deliberately cultivate a sense of perpetual urgency and simmering crisis, both at home and abroad. Assertiveness and repression are mutually supporting elements in Xi's strategy for regime survival.

Provided that they can navigate pressing challenges at home, China's leaders have reason to feel that their external position will grow stronger with the passage of time. Still, at least in the years immediately following the onset of the global financial crisis, they may also have believed that their maritime claims, and their prospects for eventually gaining control over most of the islands, waters, and resources within the so-called "first island chain," were under

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[149] To make matters worse, the financial crisis was proceeded by a series of other unsettling events, including riots in Tibet, a devastating earthquake, a scandal over tainted milk, and the publication of a manifesto by dissidents calling for democratic reforms. The combined effects of all this, plus the expected increase in unemployment, were so serious that, according to one observer, "The Chinese government lived through 2009 in a panic of worrying about the next explosion of social instability." Guoguang Wu, "China 2009: Muddling Through Crises," *Asian Survey* 50, no. 1 (January/February 2010): 30.

[150] In a widely noted 2007, speech Premier Wen Jiabao had described China's economic model as "unsteady, unbalanced, uncoordinated and unsustainable." Michael Pettis, "China's Troubled Transition to a More Balanced Growth Model," NewAmerica.org, March 1, 2011, https://www.newamerica.org/economic-growth/chinas-troubled-transition-to-a-more-balanced-growth-model/.

increased challenge from other countries.[151] For this reason, some observers have suggested that China's behavior can best be characterized as "reactive" or "reactive assertive," rather than purely assertive.[152] Whatever the label, or the precise mix of causal factors, the fact remains that Beijing's actions in recent years, like Moscow's, have been motivated by anxiety as well as ambition.

[151] Thus, for example, the initial ratcheting up of China's rhetoric and behavior regarding territorial disputes in the South China Sea followed the publication in 2009 of extensive competing claims by Malaysia and Vietnam. Michael D. Swaine and M. Taylor Fravel, "China's Assertive Behavior, Part Two: The Maritime Periphery," *China Leadership Monitor*, no. 35 (2011): 3. See also M. Taylor Fravel, "China's Strategy in the South China Sea," *Contemporary Southeast Asia* 33, no. 3 (December 2011): 300.

[152] Derek Pham, "Gone Rogue?: China's Assertiveness in the South China Sea," *Journal of Politics and Society* 22, no. 1 (2011).

Chapter 3

Strategies

Chapter 3: Strategies

Today's Russian and Chinese leaders want, above all, to survive, to preserve their grip on political power, and to maintain their present form of government in the face of Western efforts to promote liberalization and democratization. This is the master key, the single factor that goes furthest in explaining virtually every aspect of Moscow and Beijing's behavior both at home and abroad. The other external objectives of both regimes are, to a considerable degree, subordinate to and derivative of this overarching goal. Vladimir Putin and Xi Jinping seek prestige, status and a degree of deference for their countries because they think it is justly deserved, but also because they believe that gaining the respect of foreign powers will enhance their standing with their own people. Regardless of how they were ruled, a rising China and a resurgent Russia would no doubt seek to expand their influence and perhaps to establish themselves as the preponderant power in their respective regions. As nationalistic authoritarian capitalists in a world still dominated by liberal democracies, both also have an additional motive, rooted in ideology, to want to push the West and its contaminating influence back from their frontiers and to control events around their peripheries.

In pursuit of these objectives, Russia and China have developed strategies that contain a mix of six components, each of which is discussed in turn below.

1. Exploit the Economic Openness of the West

The central element in Chinese and Russian strategy has been to gain and, if at all possible, to preserve access to the economies of the advanced industrial nations. The benefits to both states of having been permitted to join the Western trading system after the end of the Cold War are so large as to be virtually incalculable. Certainly, if Russia and China had remained confined to the periphery of that system, they would not have been able to mount anything like the challenge to it that they currently pose. The West's decision in the early 1990s to try to incorporate its former foes, and their ability to seize the opportunity that this provided, were decisive in determining the subsequent course of events.

Without access to Western capital, technology, and markets, China would never have developed into the global manufacturing powerhouse that it is today. The lowering of Western barriers on technology exports and energy imports also helped Russia recover from its post-Cold War malaise and for a time seemed to be propelling it into the top ranks of the "emerging economies."[153] The rapid growth that Russia experienced in the 2000s, and that China enjoyed until the mid-2010s, made it easier for both to sustain domestic support while at the same time

[153] In the early 2000s, optimistic assessments of Russia's growth potential caused some analysts to include it along with Brazil, India, and China among the so-called BRICs. Among other factors, Russia's continuing heavy reliance on energy exports, and its failure to invest sufficiently in industrial modernization, have caused many observers to downgrade their assessments.

modernizing and expanding their military capabilities. Although residual mistrust prevented the removal of all Western restrictions on technology transfer, the loosening of many previous regulations also enabled China, in particular, to improve the quality of its weapons and other military systems far more rapidly than would otherwise have been possible.

Deepening economic interdependence with the West has also had less tangible, but nonetheless highly significant political benefits for both Moscow and Beijing. Just as the 19th century liberal theorists of free trade would have predicted, commerce has helped to create interest groups in the West that profit from, and therefore vigorously support, the preservation of good relations with the authoritarian capitalist powers, almost regardless of how aggressively those countries behave or how poorly they treat their own people. Indeed, the advocates of "engagement" argue that the remedy for such troublesome behavior is, conveniently enough, more engagement. Throughout the post-Cold War period, an influential coalition of business executives, academic experts, and former (and current) government officials has consistently claimed that stronger economic ties would give both Russia and China a bigger stake in the stability of the existing international system. Because trade accelerates growth, which enables the emergence of a strong middle class, and because the middle class has historically been the standard-bearer for political liberalization, it was widely expected that economic integration would also promote the emergence of stable democratic governments.

The existence of active, influential pro-engagement lobbies in the West has tended to blur perceptions of internal developments in both Russia and China and to dampen and delay a strong collective response to their increasingly repressive and aggressive behavior. This tendency has not gone unremarked. Writing in 2007, James Mann observed that "there are huge and growing financial incentives for prominent Americans to support the status quo in China."[154] And in a book first published in 2008, journalist Edward Lucas pointed out, similarly, that "Western trade and investment in Russia has created a powerful pro-Kremlin lobby that distorts the outside view of what is happening inside the country."[155] Despite such warnings, and notwithstanding numerous developments that have helped shake optimistic predictions about where both countries are headed, the presumed benefits of economic interdependence continue to provide a strong rationale for trying to maintain the best possible relations with Russia and China.

Eager to preserve continued access to the Western economies, Russia and China have, for their part, tried to avoid actions that would be so egregious as to provoke a reexamination or even a reversal of the policy of engagement. The precise location of the line which, if crossed, would trigger such a response is difficult to discern in advance. At least in the case of China, however, the bar appears to be set quite high and to have risen with the passage of time. Since the early post-Tiananmen period, as its wealth, power, and confidence have grown, the CCP regime has become much less concerned about being sanctioned for its treatment of dissidents, its predatory trade policies, or its aggressive actions in cyberspace. To judge from recent events in the

[154] James Mann, *The China Fantasy* (New York: Viking, 2007), 59.
[155] Lucas, *The New Cold War*, 122.

maritime domain, Beijing evidently believes that it can also engage in quite risky and provocative military and paramilitary behavior without suffering serious economic consequences.

Russia's invasion of eastern Ukraine finally succeeded in triggering at least a temporary interruption in its economic relations with the West. This reaction was slow in coming, however, and in part because of the costs it imposes on Western actors, it is unlikely to persist. Even after it invaded and annexed Crimea in the spring of 2014, Russia faced only limited sanctions from the West, mostly targeted against individuals thought to have had some direct involvement in the invasion. It was only several months later, after separatist forces in Ukraine used a Russian missile to shoot down a civilian airliner, that the United States, the EU, and others took steps that dramatically constricted trade and financial flows. Although nothing on the ground had changed, by 2016 some European governments had come under heavy pressure from domestic interest groups urging that sanctions be lifted and normal business relations be restored.[156] As has since become apparent, various "friends of Russia" were also working behind the scenes to bring about a similar relaxation in U.S. policy.

2. Defend against Penetration and Subversion

Like their illiberal predecessors, today's authoritarian regimes face the familiar challenge of maintaining control over people who have been denied the right to choose their own leaders. In contrast to their Communist forebears, however, Russia and China have not sought simply to cut themselves off from the liberal democratic world; to the contrary, as has been suggested, both wish to continue to enjoy the benefits of deep economic engagement with the West, even as they defend themselves against its potentially deadly political consequences. This balancing act has been made all the more difficult by the enabling impact of technological change on cross-border flows of information and ideas. As in other areas, the Russian and Chinese approaches to this problem have tended to converge over time, with Beijing generally in the lead and Moscow following behind. Both regimes are now attempting to implement what amounts to a system of layered defense: controlling inward flows of information, squelching dissent before it can take root, and inoculating their populations to make them less susceptible to dangerous ideas.

The correlation between the collapse of the Soviet empire and the explosive growth of the Internet caused many Western observers to conclude that, in the information age, authoritarianism had become unsustainable. Surely, as President Bill Clinton famously put it, trying to control the Internet would prove to be as futile as "trying to nail Jell-O to the wall."[157] One of the more striking and surprising features of the post-Cold War era, unfortunately, has been just how hard authoritarian regimes have worked at this seemingly impossible task, how many resources they have invested in it, and the degree to which they have actually been successful.

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[156] "Russia-Ukraine Conflict: Germany Says EU Sanctions Against Kremlin Could Be Lifted," *International Business Times*, May 27, 2016.

[157] "Full Text of Clinton's Speech on China Trade Bill," *New York Times*, March 9, 2000.

China has been the world leader in this regard, spending lavishly in order to construct a "Great Firewall" that insulates its national network from the rest of the worldwide web and deploying "an army of cyber-police, hardware engineers, software developers, web monitors and paid online propagandists to watch, filter, censor and guide Chinese Internet users."[158]

Russia began the twenty-first century with comparatively limited restrictions on Internet access and content and as recently as 2008 it was largely uncensored.[159] Following the events of 2011, however, Moscow began to take a series of steps to tighten its control, first insisting that service providers block access to websites deemed offensive by the regime.[160] Even more stringent controls were implemented in the wake of the Ukraine crisis and, according to Freedom House, by 2015 Russia had gone from an Internet freedom rating of "partly free" to the lowest category of "not free."[161] In 2016, the Putin regime promulgated a new "information security doctrine" and joined with Beijing in promoting the concept of "Internet sovereignty" under which all governments claim the right to regulate the use of the Internet within their geographic boundaries.[162] Moscow also publicly declared its intention to cooperate more closely with China, harnessing what one official described as that country's acknowledged "expertise in Internet management" in order "to gain further control over Russia's Internet."[163]

Surveillance and repression are the sturdy standbys of all authoritarian regimes and both Russia and China employ these extensively, using both traditional and more modern techniques. Beijing flaunts its ability to mobilize tens of thousands of monitors and informants to keep tabs on citizens, especially in areas deemed susceptible to unrest where, according to an official slogan, "everyone is a watchman."[164] Under the guise of fighting crime and preventing terrorism, both regimes have expanded their ability to monitor all forms of electronic communication taking place within as well as across their physical borders. To ensure ready access by the authorities, both now require that information collected on citizens by websites and service providers be stored in servers on their territory.[165] China is also pioneering the use of "big data" for "mass surveillance," collecting information on virtually every recordable act and transaction of every citizen to compile what are euphemistically referred to as "social credit" scores.[166] According to

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158 "China's Internet: A Giant Cage," *Economist*, April 6, 2013.

159 Lucas, *The New Cold War*, 55.

160 See Miriam Elder, "Russia Adopts Stringent Internet Controls Amid Censorship Concerns," *Guardian*, July 11, 2012.

161 See the country profile in "Freedom on the Net 2016," Freedom House, https://freedomhouse.org/sites/default/files/FOTN%202016%20Russia.pdf.

162 Sergey Sukhankin, "Russia's New Information Security Doctrine: Fencing Russia from the 'Outside World?" *Eurasia Daily Monitor*, December 16, 2016.

163 These are the words of Russia's chief Internet censor, Konstantin Malofeev. Mark C. Eades, "China and Russia Join Hands for Internet Censorship," Foreign Policy Association, May 2, 2016.

164 Tania Branigan, "Chinese Police Chief Boasts of Recruiting One in 33 Residents as Informants," *Guardian*, February 10, 2010; "China: No End to Tibet Surveillance Program," Human Rights Watch, January 18, 2016, https://www.hrw.org/news/2016/01/18/china-no-end-tibet-surveillance-program.

165 Chris Mirasola, "Understanding China's Cybersecurity Law," Lawfare, November 8, 2016, https://www.lawfareblog.com/understanding-chinas-cybersecurity-law; "Putin Brings China's Great Firewall to Russia in Cybersecurity Pact," Texas A&M Cybersecurity Center, November 29, 2016, https://cybersecurity.tamu.edu/putin-tightens-internet-control/.

166 "Big data, meet Big Brother: China invents the digital totalitarian state," *Economist*, December 17, 2016.

the government, these will be used to build "a culture of sincerity."[167]

In addition to possible exposure to flows of news and information, expanded engagement with the West has brought with it new ideas, social practices, and forms of organization. Thus, in both Russia and China, the 1990s saw increased activity by a growing number of lawyers, civil society advocacy groups, and NGOs, including some that received money from foundations based in other countries. Among their other activities, these individuals and groups offered protection and support for those with grievances, including grievances against the state. Not surprisingly, over the course of the past decade, lawyers, NGOs, and activists have become high-priority targets for repression by Moscow and Beijing.[168] Having recognized the potential danger that they pose, both regimes have gone to great lengths to neutralize or eliminate these possible focal points for opposition, further atomizing their societies and making sure that dissidents and potential "troublemakers" remain isolated and weak.

Propaganda and ideological indoctrination are the authoritarians' last line of defense. Today's Chinese and Russian regimes know that, no matter how hard they try, in the modern, wired world they will not be able entirely to shield their people from subversive influences. They have therefore attempted to inoculate their citizens by providing them with a countervailing set of ideas, an alternative way of looking at the world that will make them less susceptible to the appeal of Western, liberal ideology with its claims of "universal values" and its alluring emphasis on individual freedom. Moscow and Beijing have each set about to construct a distinctive belief system, supposedly rooted in their unique national histories and cultures and thus better suited to their circumstances. Not coincidentally, unlike liberalism, these ideological programs support rather than subvert the regime's preferred form of rule by emphasizing the primacy of the collective—nation and state in the case of Russia, nation and party in the case of China—over the individual.

Not content to remain entirely on the defensive, both regimes have also become increasingly vociferous and categorical in their critiques of liberal democracy. Both stress the West's arrogance, past crimes, and current failings; both accuse it of seeking to bring chaos and suffering to those who have the temerity to pursue a different path. Since the financial crisis, Beijing has highlighted the mismanagement of the American economy, as well as the apparent deadlock, instability, and general dysfunction of its much-vaunted democratic political system. For its part, Moscow has preferred to play up the West's decadence, social decay, and its alleged abandonment of "traditional values." The underlying message in both cases is the same: despite their pretensions and regardless of their past achievements, the nations of the West have little to teach and nothing to offer.

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[167] "China's 'Social Credit' System: Turning Big Data into Mass Surveillance," *Wall Street Journal*, December 21, 2016.

[168] For details, see the country reports in Human Rights Watch, *World Report 2017*, https://www.hrw.org/sites/default/files/world_report_download/wr2017-web.pdf; and U.S. Department of State, Bureau of Democracy, Human Rights and Labor, *Country Reports on Human Rights Practices for 2016*, https://www.state.gov/j/drl/rls/hrrpt/humanrightsreport/index.htm#wrapper.

3. Deter Intervention

The Cold War may have ended with a whimper rather than a bang, but its conclusion was nonetheless preceded by a major military victory. At the beginning of 1991, a coalition led by the United States inflicted an overwhelming defeat on large Iraqi forces, equipped with Soviet-designed weaponry, that had invaded and occupied Kuwait. The rout of the Iraqi army was achieved in part through the first large-scale American use of precision-guided conventional munitions and it was followed within a matter of months by the collapse of the Soviet Union. These events signaled the arrival of a new era in global politics. The United States now stood head and shoulders above any potential competitor. In the military domain, in particular, it evidently had the capacity to project power virtually anywhere in the world that it chose, and to defeat whatever enemies it encountered at minimal cost to its own forces.

Since the end of the Cold War, defense planners in China and Russia have had to wrestle with the question of how to counter America's overwhelming military superiority. For both powers, the most pressing danger is not so much that the United States will attack them directly (although that is also a concern) but that it will project power along their peripheries, defending those whom they might seek to attack or coerce, blocking their efforts to attain regional preponderance, and confronting them with the prospect of humiliating defeat in their own backyards. The challenge confronting both regimes has therefore been to find ways of deterring, and if necessary defeating, U.S. intervention in areas close to them, neutralizing the threat America's power projection capabilities pose to their national interests and, conceivably, to their survival. While they differ in their starting points and in the degree of emphasis that they place on nuclear as opposed to conventional forces, the Chinese and Russian approaches to this shared strategic problem have converged markedly in the past decade.

As they studied the first Gulf War (and somewhat later, the U.S.-led intervention in Kosovo), People's Liberation Army (PLA) planners were drawn to a simple conclusion: the best, and indeed the only, feasible way for China to counter America's evolving complex of reconnaissance and conventional precision strike forces was by building a comparable capability of its own. Events had shown that if the Americans were permitted to draw within range of their targets and to land the first blow they would likely leave an opponent blind, deaf, and in disarray. To prevent such a fate from befalling it, China needed to develop the capacity to disrupt enemy command, control, and intelligence systems; to detect, track, and target hostile aircraft, surface ships, and submarines operating off its coasts; and to bombard the relatively small number of fixed air and naval bases throughout the Western Pacific on which the U.S. depended to project and sustain its forces in the region.[169]

By the mid-1990s, Beijing was investing heavily in developing and deploying the elements of what would come to be referred to as an "anti-access/area denial" (A2/AD) capability,

[169] See Aaron L. Friedberg, *Beyond Air-Sea Battle: The Debate Over US Military Strategy in Asia* (London: International Institute for Strategic Studies, 2014).

including satellites and other surveillance systems, land-based ballistic missiles, and cruise missiles deployed on aircraft, surface ships, and submarines, as well as on land. This was a conventional (i.e., non-nuclear) response to what was seen primarily as a growing conventional threat. Although Chinese strategists occasionally hinted that a sufficiently destructive strike of any kind on their territory could provoke nuclear retaliation, Beijing did not deviate from its official policy of promising never to be the first to introduce nuclear weapons into a conflict.[170]

While they remained focused on strengthening their non-nuclear capabilities, Chinese planners also took steps to modernize and gradually to expand their nuclear forces. Starting in the mid-2000s, Beijing began to deploy land-mobile solid-fuel missiles and to push ahead with improved submarine-launched ballistic missiles.[171] The generally accepted interpretation of these developments is that they were intended to ensure that, even in the event of an American first strike, China would retain the capacity to deliver a devastating nuclear blow in response. Thus, even as they worked to improve their capacity to deter the United States and its allies from using conventional force against them, Chinese planners also sought to reduce the likelihood that, if faced with failure or defeat, the Americans might escalate to the use of nuclear weapons.[172]

Approaching the problem from the opposite angle, Russia too has moved toward a mixed strategy for deterring American intervention. In the early 1990s, with its economy in steep decline, Moscow lacked the resources needed to maintain, still less to modernize and improve the vast military machine it had inherited from the Soviet Union. Watching with apprehension as their own capabilities eroded while NATO advanced to the east and the United States flexed its muscles in Iraq and Kosovo, Russian military planners settled on what seemed at the time like the only feasible way of defending their nation's security. In 1993, Russia's new leaders formally abandoned the no-first-use pledge made by their Soviet counterparts at the height of the Cold War.[173] In its 1997 National Security Concept paper, the Yeltsin administration made clear that it reserved the right to resort to nuclear weapons if "armed aggression creates a threat to the very existence of the Russian Federation as an independent sovereign state." Three years later, Vladimir Putin's new government relaxed this provision significantly, warning that Russia might use nuclear weapons, perhaps in limited numbers, even in smaller conflicts where national survival was not immediately at stake.[174]

As part of the post-Cold War drawdown of its forces, the United States drastically reduced its

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[170] For one such suggestion, see Yu Jixun, ed., *The Science of Second Artillery Campaigns* (Beijing: PLA Press, 2004), 223.

[171] See Hans M. Kristensen and Robert S. Norris, "Chinese Nuclear Forces, 2016," *Bulletin of the Atomic Scientists* 72, No. 4 (2016): 205–11.

[172] See M. Taylor Fravel and Evan S. Medeiros, "China's Search for Assured Retaliation," *International Security* 35, no. 2 (Fall 2010): 48–87.

[173] Serge Schememann, "Russia Drops Pledge of No First Use of Atom Arms," *New York Times*, November 4, 1993.

[174] Nikolai Sokov, "Russia's Nuclear Doctrine," Nuclear Threat Initiative, August 1, 2004, 3–4, http://www.nti.org/analysis/articles/russias-nuclear-doctrine/. More recent public statements of Russian doctrine appear to have backed off from this very aggressive stance and again specify a conventional threat of existential scope as a possible trigger for escalation to nuclear weapons. See a report by the NATO Parliamentary Assembly's Science and Technology Committee, "Russian Military Modernization," March 24, 2015, 4.

stockpile of lower-yield, shorter-range "tactical" nuclear weapons.[175] Russia, on the other hand, maintained a sizeable number of older systems while at the same time investing in new types of very-low-yield warheads. A CIA analysis circulated in 2000 concluded that the development of such devices "would be consistent with Russia's increasing reliance on nuclear weapons to deter conventional as well as nuclear attacks, especially given widespread perceptions of a heightened threat from NATO and reduced capabilities of Russian conventional forces." The fact that Russia was thought to have "no prospect of restoring its military capabilities in the foreseeable future," and that it lagged behind in the development of advanced precision conventional weapons, made its situation even more precarious.[176]

Since the early 2000s, Russia has continued to stress the role of nuclear weapons in its defense policy. Major military exercises are often brought to a close with simulated nuclear attacks, sending a signal of preparedness and resolve to those watching in the West. Officials speak menacingly, if somewhat vaguely, about the possibility that if pressed too hard they might have to "escalate to de-escalate," using limited nuclear strikes to head off impending conventional defeat and to shock an opponent into coming to terms.[177]

While nuclear force modernization continues to take top priority, since 2008 Moscow has also made significant investments aimed at improving its conventional capabilities.[178] In addition to upgrading weapons that could be used in traditional cross-border warfare—tanks, planes, and artillery pieces—Russia has been installing and improving its own version of an A2/AD network. By deploying extended range, land-based anti-aircraft and anti-ship missile systems in Murmansk, Kaliningrad, the Crimean Peninsula, and now Syria, Moscow has constructed what one the former commander of U.S. naval forces in Europe recently described as "an arc of steel" that now extends from the Arctic, down through the Baltic and the Black Sea, to the eastern Mediterranean.[179] According to one top NATO official, these A2/AD systems are "the things that worry us most" as they could have the effect of "impeding and complicating . . . reinforcements and other . . . operations."[180] Rather than rely solely on the threat of nuclear escalation, Moscow, like Beijing, also seeks "deterrence by denial" through the deployment of precision conventional weapons systems intended to multiply the likely cost and complexity of any attempt to intervene along its frontiers.[181]

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[175] See Hans M. Kristensen, *U.S. Nuclear Weapons in Europe* (Washington: Natural Resources Defense Council, February 2005).

[176] Central Intelligence Agency, Office of Transnational Issues, "Evidence of Russian Development of New Subkiloton Nuclear Warheads," August 30, 2000, 7, https://www.cia.gov/library/readingroom/docs/DOC_0001260463.pdf.

[177] See Mark B. Schneider, "Escalate to De-escalate," *U.S. Naval Institute Proceedings* 143/2/1,368 (February 2017).

[178] For an overview, see the section on "Russian Forces" in the Third Report of the House of Commons Defence Committee, "Towards the next Defence and Security Review: Part Two-NATO," July 22, 2014, https://www.publications.parliament.uk/pa/cm201415/cmselect/cmdfence/358/35805.htm.

[179] Sydney Freedberg, "Russia Builds 'Arc of Steel': Adm. Ferguson," *Breaking Defense*, October 6, 2015. For an overview of these deployments, see Loic Burton, "Bubble Trouble: Russia's A2/AD Capabilities," Foreign Policy Blogs, October 25, 2016, http://foreignpolicyblogs.com/2016/10/25/bubble-trouble-russia-a2-ad/.

[180] Matthew Bodner, "NATO Deputy SecGen: Russia's Anti-Access/Area-Denial Build-Up Is Biggest Worry," *Defense News*, February 13, 2016.

[181] For the possible role of Russia's A2/AD capabilities in enabling action against the Baltic states, see Stephan

4. Reshape the Periphery

If Russia and China were status quo powers, they might be content to have created a situation of mutual deterrence, one in which the United States and its allies would fear the consequences of using force against them directly or in areas immediately adjacent to their territory, but in which they too would continue to be constrained. As we have seen, however, the authoritarian capitalist powers have more ambitious goals than the mere maintenance of stability. Both seek to push outward, to assert control over territory, to expand their spheres of influence, and to demonstrate a willingness and ability to defy the West, both to their own people and to the wider world. The challenge confronting strategists of both countries in recent years has been to find ways of doing these things while at the same time controlling the risks of direct military confrontation, escalation, and war.

Moscow's approach to this problem is embodied in the concept of "new generation warfare" (NGW), as symbolized by the use of "little green men," the Russian special forces troops in unmarked uniforms who helped seize control of Crimea in 2014. The tenets of NGW grow out of an ongoing effort by senior officers and military theorists to derive general lessons from recent conflicts, especially those surrounding the so-called "color revolutions." These popular uprisings originated around the edges of the former Soviet empire in the early 2000s, spread across North Africa and the Middle East in 2011, and by 2014 they appeared once again to pose a threat to the stability of states on Russia's doorstep and perhaps to Russia herself.

As portrayed by Chief of the General Staff General Valery Gerasimov, these events signal the arrival of a new phase in the history of warfare, one in which "the very 'rules of war' have changed" and in which "the role of nonmilitary means of achieving political and strategic goals have grown and, in many cases, have exceeded the power of . . . weapons in their effectiveness."[182] The principal threat, as always, comes from the United States. Whereas at the turn of the century Washington had achieved regime change through brute force, invading its targets after first finding a suitable pretext (human rights violations in Kosovo, terrorism in Afghanistan, weapons of mass destruction in Iraq), with time and experience, its methods have grown subtler. As they did in Libya, in a future conflict the Americans and their allies will start by using propaganda, social media, and NGOs to foment unrest in a target country. Once fighting is underway, they will offer support to armed regime opponents through various means, including the covert insertion of special forces and military contractors. As conflict escalates and conditions worsen, the West will impose economic and political sanctions, possibly going so far as to establish no-fly zones and defended sanctuaries within the borders of their intended victim. At this point, and only if necessary, regular forces may be dispatched to bring a conflict

Frühling and Guillaume Lasconjarias, "NATO, A2/AD and the Kaliningrad Challenge," *Survival* 58, no. 2 (April–May 2016): 95–116; Alexander Lanoszka and Michael A. Hunzeker, "Confronting the Anti-Access/Area Denial and Precision Strike Challenge in the Baltic Region," *RUSI Journal* 161, no. 5 (October/November 2016): 12–18.

[182] Valery Gerasimov, "The Value of Science Is in the Foresight: New Challenges Demand Rethinking the Forms and Methods of Carrying out Combat Operations," *Military Review* (January–February 2016): 24.

to its inevitable conclusion. When the target regime finally collapses, the United States and its allies will support the deployment of "peacekeepers" to restore order and install a friendly, pro-Western government.[183]

Moscow's response to this emerging threat has been to devise similar techniques and to be prepared to use them swiftly, and if possible preemptively, to counter an enemy's initiatives. As described by Dmitry Adamsky, Russian strategists conceive of NGW as "an amalgamation of hard and soft power" that aims to achieve its ends "through skillful application of coordinated military, diplomatic, and economic tools."[184] NGW "targets the adversary's perception and is more about affecting the opponent's will and manipulating his strategic choices" than destroying traditional economic and military targets.[185] An ideal NGW campaign would place heavy emphasis on "the informational-psychological struggle," starting with "a massive deception and disinformation campaign" to paralyze the opponent's decision-makers. Under the deterrent umbrella of its nuclear and conventional precision strike capabilities, Russian special forces would then conduct "subversion-reconnaissance activities" against a target state to be followed, if needed, by kinetic strikes against its political, economic, and military infrastructure and, finally, by territorial occupation.[186] This is essentially the playbook that Moscow followed in seizing Crimea, supporting separatist forces in Eastern Ukraine and preventing what it saw as the impending danger of that country's full absorption into the Western order. The question now is whether, and if so where and when, Russia might try to use similar techniques to "create facts" and reassert control around its periphery, whether in a non-NATO country like Georgia or perhaps even against the Baltic states.[187]

China, too, wants to change the status quo, especially along its maritime frontiers. Here, in addition to achieving "reunification" with Taiwan, Beijing seeks to compel other states to recognize it as the rightful owner of islands in the East China Sea that are currently occupied by Japan and to acknowledge its claim to control most of the waters, surface features, and resources of the South China Sea. Like their Russian counterparts, Chinese strategists have been hard at work devising techniques that they hope will enable them to achieve these revisionist aims without triggering a large-scale armed clash. Their preferred approach also involves a mix of "hard" and "soft" measures, albeit one that has thus far relied more on the implicit threat of force than its actual use.

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183 See Charles K. Bartels, "Getting Gerasimov Right," *Military Review* (January–February 2016): 30–38. See also the summary of a briefing by Gerasimov in Anthony H. Cordesman, "Russia and the 'Color Revolution,'" May 28, 2014, https://csis-prod.s3.amazonaws.com/s3fs-public/legacy_files/files/publication/140529_Russia_Color_Revolution_Full.pdf.

184 Dmitry Adamsky, *Cross-Domain Coercion: The Current Russian Art of Strategy* (Paris: Institute Français des Rélations Internationales, November 2015), 23.

185 Ibid., 26.

186 Ibid., 24.

187 See Michael Kofman, "The Moscow School of Hard Knocks: Key Pillars of Russian Strategy," War on the Rocks, January 17, 2017, https://warontherocks.com/2017/01/the-moscow-school-of-hard-knocks-key-pillars-of-russian-strategy/; Phillip Karber and Joshua Thibeault, "Russia's New Generation Warfare," The Potomac Foundation, May 13, 2016, http://www.thepotomacfoundation.org/russias-new-generation-warfare-2/; Alexander Lanoszka, "Russian Hybrid Warfare and Extended Deterrence in Eastern Europe," *International Affairs* 92, no. 1 (2016): 175–95.

Since 2003, when the concept was formally approved by the Central Military Commission, Chinese analysts and planners have been exploring the possible application of what are referred to as the "three warfares." According to the U.S. Defense Department, these are seen as "force enablers" that can help to "undermine the spirit and ideological commitment of the adversary." Psychological warfare operations are designed to deter, shock, and demoralize, rendering an enemy less willing or able to fight. Media warfare targets domestic and international audiences in order to build support for China's position in a crisis or impending conflict while undermining support for its adversaries. And legal warfare seeks to use international and domestic law "to claim the legal high ground . . . [and] hamstring an adversary's operational freedom."[188]

While the three warfares may originally have been conceived as an adjunct to actual armed combat, more recent writings describe them as having achieved a "breakthrough" that renders them relevant to every aspect of strategic interaction.[189] This is especially evident in the maritime domain, where Beijing has used an assortment of instruments from the three warfares toolkit in an attempt to expand its sphere of influence and control. Over the course of the past decade, the regime has been engaged in an ongoing media campaign, aimed at both foreign and domestic audiences, that is intended to highlight the historical basis and hence the supposed legitimacy of its extensive claims in the East and South China Seas. The Chinese authorities have sought to further bolster their position by offering their own distinctive interpretation of the international law of the sea and by passing domestic legislation and issuing decrees that they then use as the basis for asserting jurisdiction over disputed areas.[190]

Beijing has also been engaged in a form of psychological warfare, combining words with a variety of gestures which, while they do not involve actual violence, are designed to intimidate others and weaken their will to resist by signaling its own resolve and displaying its growing power. Thus, for example, the declaration of an ADIZ over the East China Sea was not followed by active efforts to interdict the aircraft of other countries. But it sent a clear message that Beijing believes it has the right to take such steps, and might be willing to act in the future, whether in the skies over the East China Sea or perhaps after declaring another ADIZ over disputed portions of the South China Sea.[191] Similarly, the creation and militarization of new

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[188] Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2011* (Washington: Office of the Secretary of Defense, 2011), 26. See also three essays by Dean Chang, "Winning Without Fighting: Chinese Legal Warfare," *Heritage Foundation Backgrounder*, no. 2692 (May 18, 2012), http://www.heritage.org/asia/report/winning-without-fighting-chinese-legal-warfare; "Winning Without Fighting: Chinese Public Opinion Warfare and the Need for a Robust American Response," *Heritage Foundation Backgrounder*, no. 2745 (November 21, 2012), http://thf_media.s3.amazonaws.com/2012/pdf/bg2745.pdf; "Winning Without Fighting: The Chinese Psychological Warfare Challenge," *Heritage Foundation Backgrounder*, no. 2821 (July 12, 2013), http://www.heritage.org/global-politics/report/winning-without-fighting-the-chinese-psychological-warfare-challenge.

[189] Quote from 2014 manual used to instruct officers at the National Defense University. For a discussion of this and other recent Chinese writings on the topic, see Elsa Kania, "The PLA's Latest Strategic Thinking on the Three Warfares," *China Brief* 16, no. 13 (August 2016).

[190] Austin Ramzy, "China's Newest City Raises Threat of Conflict in South China Sea," *Time*, July 24, 2012. See Geoffrey Till, "China, the "Three Warfares" and the South and East China Sea," and Justin Nankivell, "China's Use of Lawfare in the South China Sea Dispute," both in *The Three Warfares*, ed. Stefan Halper (Washington DC: Office of Net Assessment, 2013), 381–411 and 427–49.

[191] Michael Pilger, "ADIZ Update: Enforcement in the East China Sea, Prospects for the South China Sea, and

surface features in the South China Sea has not been followed by attempts to regulate the flow of commercial shipping through adjacent waters, but it has raised the prospect that China could eventually take such action, while strengthening its ability to do so.[192] Russia has employed "little green men" to try to keep its aggressive actions below the threshold of direct military engagement. With a similar end in view, China has made extensive use of coast guard rather than naval vessels to enforce its claims, as well as its own "little blue men," a maritime militia of civilian fishermen who are nevertheless trained to take part in the surveillance and harassment of hostile forces and the support and resupply of friendly ones.[193]

5. Prevent Effective Counterbalancing

As they press outwards against the limits and boundaries that they believe have been unfairly imposed upon them by a hostile and suspicious West, Moscow and Beijing have inevitably encountered resistance. In keeping with a veritable iron law of international politics, their increasing strength and assertiveness have inspired fear in neighboring countries and beyond, including in the United States. If the liberal democracies can coordinate and synchronize their policies, they should have more than ample resources with which to check even the most ambitious schemes of the resurgent authoritarian capitalist regimes. If they are to achieve their objectives, the revisionist powers must therefore find ways of delaying or reducing the efficiency of the West's attempts to balance against them.

Even without any deliberate efforts on the part of the authoritarians, a desire to preserve the benefits of economic engagement with them would no doubt have acted as a brake on the balancing tendencies of the Western powers. Neither Moscow nor Beijing has been content to depend entirely on the emollient effects of commerce, however, and especially as their actions have generated more resistance, both have taken additional steps to try to prevent the consolidation of a countervailing coalition. While their goals are similar, and while each involves the use of a mix of instruments and approaches, the overall character of these two influence campaigns has been markedly different. Where Russia has chosen to rely primarily on threats and attempts at subversion, China has, at least until quite recently, generally sought to ease the anxieties of potential opponents through soothing rhetoric and the offer of inducements.

Russia's targets are arrayed in concentric rings extending westward to include the nations of its "near abroad," the newest members of the NATO alliance, the established democracies of "old

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Implications for the United States," U.S.-China Economic and Security Review Commission, Staff Research Report, March 2, 2016, https://www.uscc.gov/sites/default/files/Research/ADIZ%20Update_0.pdf.

[192] For an overview of the possible military implications, see Ben Dolven, Jennifer K. Elsea, Susan V. Lawrence, Ronald O'Rourke and Ian E. Rinehart, *Chinese Land Reclamation in the South China Sea: Implications and Policy Options* (Washington DC: Congressional Research Service, June 18, 2015), 7–12.

[193] See Andrew S. Erickson and Conor M. Kennedy, "Meet the Chinese Maritime Militia Waging a 'People's War at Sea,'" *Wall Street Journal*, March 31, 2015; and "Directing China's 'Little Blue Men': Uncovering the Maritime Militia Command Structure," Asia Maritime Transparency Initiative, September 11, 2015, https://amti.csis.org/directing-chinas-little-blue-men-uncovering-the-maritime-militia-command-structure/.

Europe," and, across the Atlantic, the United States. During the first decade of the twenty-first century, when energy prices were soaring, Moscow made repeated attempts to influence the policies of its neighbors by threatening to suspend or limit natural gas exports, doing so on at least two occasions to put pressure on Ukraine. While these incidents were nominally triggered by disputes over pricing, they also carried a clear geopolitical message: if the Central and Western European nations went too far in opposing Russia's ambitions, they might find themselves facing severe energy shortages.[194]

Falling prices for oil and natural gas and deliberate efforts by the EU to diversify its sources of supply have caused Russia's "energy weapon" to lose whatever efficacy it might once have had.[195] In compensation, Moscow has made increasing use of military threats against U.S. allies in Europe, a technique familiar from the Soviet era. Through a combination of official and unofficial statements, military exercises, displays of force, and weapons deployments, the Russian government has repeatedly raised the specter of a "hot war" between East and West, perhaps one that would involve the use of nuclear weapons.

While some of Moscow's threatening declarations and gestures are general and omnidirectional in nature, most are aimed at America's NATO allies, as well as some nominally nonaligned nations that may be contemplating closer affiliation with the West. As during the Cold War, the not-so-subtle message here is that these countries will be caught in between, and risk suffering terrible damage if they side with the United States in any future conflict. Thus, to take only a few recent examples, at the start of 2017 Russia deployed a new intermediate-range, nuclear-armed cruise missile capable of striking targets across much of Central and Western Europe.[196] Several months earlier, it moved shorter-range nuclear-capable ballistic missiles to the enclave of Kaliningrad, from which they can reach the Baltic republics, most of Poland, and west to the outskirts of Berlin.[197] At around the same time, the Russian defense ministry announced the development of a new, intercontinental-range missile known as the "Satan 2." This weapon is capable, as the state news outlet Sputnik helpfully pointed out, of "wiping out parts of the earth the size of Texas or France."[198] In 2015, Russian state TV broadcast portions of a meeting between Putin and senior military officials in which one officer was seen perusing supposedly secret plans for an unmanned submarine packed with radioactive material and capable of inflicting "unacceptable damage to a country's territory by creating areas of wide radioactive contamination."[199] Russian aircraft recently conducted mock bombing raids directed at Sweden,

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194 Russia took similar steps after the 2014 Ukraine crisis. For an overview see Jakub M. Godzimirski, "European Energy Security in the Wake of the Russia-Ukraine Crisis," *Strategic File* (Polish Institute of International Affairs) 27, no. 63 (December 2014), https://www.pism.pl/files/?id_plik=18874.

195 Tim Boersma, "The End of the Russian Energy Weapon (That Arguably Was Never There)," Brookings Institution, March 5, 2015, https://www.brookings.edu/blog/order-from-chaos/2015/03/05/the-end-of-the-russian-energy-weapon-that-arguably-was-never-there/.

196 Thomas Gibbons-Neff, "This Is the Ground-Launched Cruise Missile that Russia Has Reportedly Just Deployed," *Washington Post*, February 15, 2017.

197 "Russia Transfers Nuclear-Capable Missiles to Kaliningrad," *Guardian*, October 8, 2016.

198 Sebastian Shukla and Laura Smith-Spark, "Russia Unveils 'Satan 2 Missile, Could Wipe Out France or Texas, Report Says," *CNN*, October 27, 2016, http://www.cnn.com/2016/10/26/europe/russia-nuclear-missile-satan-2/.

199 Matthew Bodner, "Russia Leaks Dirty-Bomb Submarine Drone in State TV Broadcast" *Defense News*, November 13, 2015, http://www.defensenews.com/story/defense/naval/submarines/2015/11/13/russia-leaks-dirty-bomb-submarine-drone-state-tv-broadcast/75710806/.

and Foreign Ministry Sergey Lavrov subsequently warned that if the country joined NATO, it would face unspecified military consequences.[200]

Not content simply to intimidate other nations, Moscow has also been seeking to infiltrate, weaken, and where possible, to change their governments, bringing to power leaders who will be more favorably disposed toward Russia and less inclined to cooperate against it. The focus of these efforts has shifted westward with the passage of time. Russia's first targets were the recently minted and, in some cases, quite fragile democracies of Eastern and Central Europe, including Hungary, Bulgaria, and Slovakia. Here, Moscow has taken advantage of the local need for investment capital, weak or underdeveloped mechanisms for the control of corruption, and the presence of "prominent pro-Russian businessmen-turned-politicians" to gain influence and weaken democratic institutions.[201]

Especially since the 2008 financial crisis, the Kremlin has expanded its influence operations in Western Europe, forming relationships with anti-EU, generally right-wing or populist political parties in Germany, France, and the UK, among other countries, and assisting them with a mix of direct financial support and elaborate disinformation campaigns aimed primarily at discrediting their opponents and boosting their electoral prospects. According to a recent report, the purpose of this activity is "to cultivate a network of organizations and individuals that support Russian economic and geopolitical interests, denounce the EU and European integration, propagate a narrative of Western decline, and vote against EU policies on Russia (most notably sanctions)." In the long run, Moscow aims to "[weaken] transatlantic institutions and [undermine] liberal values."[202]

As has now been widely reported, the Russian security services have recently sought to apply some of the same techniques that they had developed in Europe to the American political process. According to a subsequent assessment by the U.S. intelligence community, in 2016 President Putin ordered an influence campaign intended to "undermine public faith in the US democratic process," damaging the Democratic candidate and assisting her Republican opponent. Russian military intelligence also conducted cyber operations against the Democratic National Committee, releasing damaging information through WikiLeaks. In addition, the Russian government used "state-funded media, third-party intermediaries, and paid social media users or 'trolls'" to circulate stories intended to shape the perceptions and influence

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[200] Damien Sharkov, "Russia Practiced Nuclear Strike on Sweden: NATO Report," *Newsweek*, February 4, 2016; Michael Winiarski, "Russia Issues NATO Warning to Sweden," *Dagens Nyheter*, April 29, 2016.

[201] Heather A. Conley, James Mina, Ruslan Stefanov, and Martin Vladimirov, *The Kremlin Playbook: Understanding Russian Influence in Central and Eastern Europe* (Washington DC: Center for Strategic and International Studies, October 2016), 7.

[202] Alina Polyakova, Marlene Laruelle, Stefan Meister, and Neil Barnett, *The Kremlin's Trojan Horses: Russian Influence in France, Germany, and the United Kingdom* (Washington DC: Atlantic Council, November 2016), 6. Regarding Moscow's disinformation campaigns, see Christopher Paul and Miriam Matthews, *The Russian 'Firehose of Falsehood' Propaganda Model* (Santa Monica CA: RAND, 2016). On its support for populist parties, see Dalibor Rohac, Edit Zgut, and Lorant Gyori, *Populism in Europe and Its Russian Love Affair* (Washington DC: American Enterprise Institute, 2016).

the choices of American voters.[203] The evident intent of all this activity was either to weaken a potential president deemed likely to take a hostile stance toward Russia or to help elect one who might be more favorably disposed and perhaps, as a result, less likely to rally a balancing coalition against it.

While China has engaged in extensive cyberespionage for strategic and economic purposes, so far as is known it has not attempted to use such techniques to directly influence the electoral processes of the United States or any other major power. Beijing's information operations have been aimed more at shaping the perceptions of foreign governments and publics, primarily (though not exclusively) for purposes of reassuring them about its capabilities and intentions. Where Russia seeks to pressure and intimidate its neighbors in order to discourage them from balancing too vigorously against it, at least until quite recently China has generally aimed to persuade others that it is not really a serious threat.

Like Russia, China has a long history of engaging in political warfare, which its leaders conceive as comprising activities intended to "influence the emotions, motives, objective reasoning, and behavior of foreign governments, organizations, groups, and individuals in a matter favorable to one's own objectives."[204] The targets of Chinese influence operations may be thought of as comprising a pyramid. At the pinnacle are "old friends," or "sympathetic counterpart[s]," current or former senior diplomats, political leaders, business executives, and military officers with whom it seeks, in the words of Richard Solomon, to "cultivate a personal relationship, a sense of 'friendship' (*you-yi*) and obligation" and then to "manipulate feelings of good will, obligation, guilt, or dependence" in order to achieve its objectives.[205] Since the start of its process of "reform and opening up," China has been able to rely on an assortment of "old friends" to explain away its troubling behavior, smooth over differences, and deliver reassuring messages about its intentions to Washington and other capitals.

Moving down from the peak of the influence pyramid, the last several decades have been marked by a rapid proliferation of venues for engagement and exchange between Chinese and Western scholars and policy analysts. None of these people carries the same weight as a top business executive or former high-ranking government official, but they collectively play an important role in interpreting events and setting the terms of discussion and debate in their respective countries. Experts exchange visits to conduct interviews and research, attend bilateral and multilateral conferences on various topics, and participate in joint research projects.[206]

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[203] Office of the Director of National Intelligence, "Background to 'Assessing Russian Activities and Intentions in Recent US Elections': The Analytic Process and Cyber Incident Attribution," January 6, 2017, ii, https://www.dni.gov/files/documents/ICA_2017_01.pdf.

[204] Mark Stokes and Russell Hsiao, "The People's Liberation Army General Political Department: Political Warfare with Chinese Characteristics," Project 2049 Institute, October 14, 2013, 4.

[205] Richard H. Solomon, *Chinese Negotiating Behavior: Pursuing Interests Through 'Old Friends'* (Washington DC: U.S. Institute of Peace Press, 1999), 4. Regarding the CCP's long-standing policy of "using foreign strength to promote China," see Anne-Marie Brady, "China's Propaganda and Perception Management Efforts, Its Intelligence Activities that Target the United States, and the Resulting Impacts on U.S. National Security" (testimony before the U.S.-China Economic and Security Review Commission), April 30, 2009.

[206] See, for example, Kenneth Lieberthal and Wang Jisi, *Addressing U.S.-China Strategic Distrust* (Washington DC: Brookings, March 2012).

From Beijing's perspective, the purpose of all this activity is once again to reinforce favorable perceptions of China's intentions, to dispel "strategic distrust," and to highlight the possibilities for cooperation.

Finally, at the base of the pyramid are activities aimed at shaping mass opinion in other countries. Since the 1990s, Beijing has greatly increased its investment in media directed at foreign audiences and has sought to increase the subtlety and sophistication of its message. The regime now regularly hires Western public relations firms and, according to scholar Anne-Marie Brady, deploys "many of the methods of public opinion management which originated in modern industrialized societies such as the United States."[207] Another new weapon in Beijing's expanding political warfare arsenal is the network of so-called Confucius Institutes that have sprung up around the world since the early 2000s. Notwithstanding their ostensibly non-political mission of introducing foreigners to China's ancient language and culture, the growing network of government-funded institutes has been described by one high-ranking CCP official as "an important part of China's overseas propaganda set-up."[208] In addition to conveying a generally favorable image of China and, at least implicitly, a soothing message about its intentions, the Institutes have also allegedly been involved in attempts to restrict discussion of certain sensitive topics (including human rights, Tibet, and religious freedom) at events they sponsor.[209]

Professions of peaceful intent are central to China's message to the United States and the wider world. There is nothing especially remarkable about this; only a handful of countries today would describe their intentions differently. More noteworthy than the basic message itself are the lengths to which the regime goes to transmit and reinforce it and the variety of arguments and channels through which it seeks to do so.

Chinese analysts are at pains to denounce and refute what they refer to as the "so-called China threat theory," a term used to refer to any suggestion that their growing wealth and power could legitimately be seen as a danger by other countries.[210] Scholars and policymakers maintain, moreover, that their country is not only peace-loving and nonaggressive *at present*, but that it always has been and always will be. As former State Counselor Dai Bingguo put it in one widely quoted 2010 article, "China has no culture or tradition of seeking expansion or hegemony. Throughout our history of thousands of years, benevolence and harmony are at the heart of our political and cultural tradition, which values harmony, good-neighborliness and friendship with all." Even at the peak of its power, when it "accounted for 30 percent of the world's GDP," China "never sought expansion or hegemony." This, of course, is in marked contrast to other nations, which in recent memory regularly engaged in "invasion, plundering, war [and]

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207 Brady, "China's Propaganda and Perception Management Efforts," 6.

208 Li Changchun, member of the Politiburo Standing Committee, quoted in "A Message from Confucius: New Ways of Projecting Soft Power," *Economist*, October 22, 2009, http://www.economist.com/node/14678507.

209 See, for example, Elizabeth Redden, "Censorship at China Studies Meeting," Inside Higher Ed, August 6, 2014, https://www.insidehighered.com/news/2014/08/06/accounts-confucius-institute-ordered-censorship-chinese-studies-conference.

210 See, for example, Li Yang, "'China Threat' Theory Is Absurd," *China Daily*, September 2, 2010, http://www.china.org.cn/opinion/2010-09/02/content_20852997.htm.

expansion." China does not "seek hegemony and will never compete with other countries for leadership in our region, seek so-called joint hegemony or follow so-called Monroe Doctrine . . . We do not export our social system or development model and we respect the choices of the people of other countries."[211] In short, China's neighbors have nothing to fear from the growth of its power.

Although China's information operations are still heavily focused on the transmission of reassuring messages, there have been some subtle shifts in recent years, especially as regards its interactions with several neighboring countries that happen also to be U.S. friends and allies. Official statements continue to emphasize the fact that China poses no threat and, to the contrary, that its growing economy presents ever-expanding opportunities for "win-win cooperation" with all countries, and especially those around its continental and maritime peripheries. This is the central theme of the rhetoric surrounding the so-called "One Belt, One Road" (OBOR) initiative, an ambitious program of infrastructure investment projects that will be discussed more fully below.

At the same time, however, as China's economy has grown in size, and as its relative importance as a trade and investment partner for its neighbors has increased, Beijing has begun to look for ways to convert market clout into diplomatic influence. While generally careful not to pose the alternatives in stark, binary terms, Chinese spokesmen have done little to discourage the notion that, at some point, Asian countries will have to choose between continued, close security relations with the United States and expanding trade and investment ties with China. This sometimes involves a kind of rhetorical sleight of hand, with Chinese officials highlighting the contradiction between the trade and security ties of third parties even as they deny the necessity of choosing between the two. Thus, for example, during a recent visit to Australia, Premier Li Keqiang reassured an audience of businessmen and parliamentarians that "we respect your choices in your foreign policy," but he went on to say that "we don't want to see [Australia] taking sides, as happened during the Cold War." Of course, given that Australia is already a treaty ally of the United States, "not taking sides" would mean, in effect, distancing or even eventually detaching itself from Washington in order to maintain its strong commercial ties to China.[212]

Along with the other steps it has taken recently to assert its claims and defend its "core interests," Beijing has begun to experiment with various means of deploying its market power to impose costs on U.S. allies. In 2010, following the initial escalation of tensions over the Senkakus, the Chinese authorities evidently imposed a temporary restriction on exports of rare earth minerals to Japan.[213] Two years later, as part of its campaign to assert control over islands in the South

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[211] Dai Bingguo, "Stick to the Path of Peaceful Development," *China Daily*, December 13, 2010, http://www.chinadaily.com.cn/cndy/2010-12/13/content_11689670.htm.

[212] Jonathan Pearlman, "Canberra Need Not Fear a 'China Choice', Says Li," *Straits Times*, March 25, 2017. For more on the necessity of choice, see an interview with Singapore Prime Minister Lee Hsien Loong, "Singapore Could Face Choice between US or China, PM says," *BBC*, February 28, 2017, http://www.bbc.com/news/world-asia-39103774.

[213] Keith Bradsher, "Amid Tension, China Blocks Vital Exports to Japan," *New York Times*, September 22, 2010.

China Sea, Beijing effectively blocked imports of bananas from the Philippines.[214] Neither of these actions was aimed directly at the target country's alliance with the United States. Nevertheless, both incidents served to highlight the fact that, despite the U.S. commitment to come to their defense in the event of a physical attack, if they took actions that displeased Beijing, Americas' allies could still find themselves vulnerable to economic coercion.

China's recent actions constricting trade with South Korea offer a more direct example of the linkage between balancing behavior and economic pressure. In retaliation for Seoul's decision to host elements of an advanced U.S. missile defense system, which it sees as aimed at its own nuclear forces rather than North Korea's, Beijing has taken a series of gradually escalating steps: barring visits by "K-pop" bands, blocking charter flights, banning imports of cosmetics, and shutting down the outlets of a major South Korean retail chain.[215] None of these measures has been sufficient, in itself, to cause Seoul to rethink its position, and the effort to compel it to do so may ultimately fail and could even backfire, at least in the short run. But the message being sent is clear enough: those who defy Beijing's wishes and give priority to security relations with Washington will end up paying a heavy economic price.

6. Build an Alternative, Illiberal Order

Despite their increased assertiveness and recent successes, the authoritarian capitalist powers still feel themselves to be embattled, threatened, and encircled. At least for the foreseeable future, they must continue to live in a world in which the United States remains the preponderant power and in which, as they see it, the most important international institutions and the most widely accepted rules and norms were crafted to reflect its values and serve its interests. Even if they wanted to, the authoritarian capitalists are not yet strong enough to make a frontal assault aimed at overthrowing the existing international system. Instead, as we have seen, they have sought to take maximum advantage of the opportunities that the current order provides while defending themselves as best they can against the dangers that it poses. In addition to hardening their own societies against subversion, deterring intervention, pushing outwards around their peripheries, and seeking to slow the formation of counterbalancing coalitions, both Moscow and Beijing have also set about to build new multilateral mechanisms of various kinds that they believe will help to ensure the survival of their illiberal regimes. These structures are regional rather than global in scope, but they have already begun to extend across much of Eurasia and could eventually provide the foundation for an integrated authoritarian subsystem, nested within the larger liberal international order.

Whether there will be one reasonably cohesive subsystem or perhaps two contending ones

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[214] Jane Perlez, "Dispute Between China and Philippines Over Island Becomes More Heated," *New York Times*, May 11, 2012.

[215] Kim Tae-woo, "Beijing's Korea Bashing over THAAD: Is It Someone Else's Problem for Washington?" *PacNet*, no. 25 (March 23, 2017), http://us8.campaign-archive2.com/?u=fdfd9b07c6818bebcd9951d95&id=e53d1b18c9&e=f288bada2a.

will depend on the state of relations between Moscow and Beijing. At least for the moment, these appear to be quite good. China and Russia have been collaborating on energy, technology transfer, and arms sales since the early 1990s, and in 2001, the two nations signed a twenty-year Treaty of Friendship. The sense that the two authoritarian powers face a common ideological threat was heightened by the color revolutions of 2003–2005 and the Bush administration's proclaimed commitment to spreading democracy under its "freedom agenda." Bilateral cooperation has grown even deeper and more intense since 2014, as Western sanctions have pushed Moscow closer to Beijing. The Russian and Chinese governments have recently agreed to an assortment of new energy and infrastructure development projects and they have also initiated a series of bilateral military exercises of unprecedented scope and complexity. While Moscow and Beijing are not bound by any formal commitment, and while they continue to eye one another with a degree of mutual suspicion, especially as regards their overlapping interests in Central Asia, some analysts describe their emerging relationship as having evolved to the point where it constitutes a "soft alliance."[216]

Russia and China are still heavily reliant on trade and investment with the advanced industrial economies and certainly would prefer to preserve their access for as long as possible. In recent years, however, both Moscow and Beijing have begun to consider ways in which they might be able to reduce their dependence on and vulnerability to the West. In addition to seeking expanded trade with China, since 2014 Moscow has also intensified its ongoing efforts to integrate Russia's immediate neighbors into a Eurasian Economic Union. The EEU's current membership includes Armenia, Belarus, Kazakhstan, and Kyrgyzstan, as well as Russia, but President Putin has declared his desire to expand it to include all the former Soviet republics, with the exception of the Baltic states.[217] As Lilia Shevtsova explains, the EEU's functions are strategic as well as economic: Moscow's goal is to "preside over a bloc that will counterbalance the EU," thereby helping to ensure the survival of personalized, authoritarian rule in all the member states.[218] Closer to home, at Putin's direction, Russia has also raised tariffs in order to encourage the development of domestic industry and reduce dependence on imports.[219] The goal of these initiatives, in the words of Hill and Gaddy, is "to make Russia and [Putin's] regime robust in the face of global challenges."[220]

Beijing's efforts in this regard are even more ambitious and extensive. The Chinese government has recently introduced an array of new measures intended to encourage the "indigenous

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[216] See Alexander Gabuev, "A 'Soft Alliance'? Russia-China Relations After the Ukraine Crisis," European Council on Foreign Relations Policy Brief 126 (February 2015), http://lea.vitis.uspnet.usp.br/arquivos/a-soft-alliance-russia-china-relations-after-the-ukraine-crisis_alexander-gabuev.pdf. Also Charles Clover, "Russia and China Learn From Each Other as Military Ties Deepen," *Financial Times*, June 21, 2016, https://www.ft.com/content/a3e35348-2962-11e6-8b18-91555f2f4fde.

[217] Andrew Rettman, "Armenia to Join Russia Trade Bloc, Surprises EU," *EUObserver*, September 3, 2013, https://euobserver.com/foreign/121304.

[218] Lila Shevtsova, "Forward to the Past in Russia," in *Authoritarianism Goes Global: The Challenge to Democracy* ed. Larry Diamond, Marc F. Plattner and Christopher Walker (Baltimore: Johns Hopkins University Press, 2016), 44.

[219] Laura Solanko, "Opening Up or Closing the Door for Foreign Trade—Russia and China Compared," Bank of Finland/Institute for Economies in Transition, *Policy Brief* (August 2016): 6.

[220] Hill and Gaddy, *Mr. Putin*, 247.

innovation" of cutting-edge technologies and to diminish dependence on information and communications technology systems designed and built in the West.[221] In 2013, Xi Jinping also launched the aforementioned One Belt, One Road initiative, a set of costly infrastructure development projects which, if completed, would link much of Eurasia through a massive network of railroads, highways, pipelines, and fiber optic cables. In addition to extending its influence, this initiative is evidently designed to diversify China's access to markets and resources and to reduce its vulnerability to Western trade sanctions or naval blockades.[222] In conjunction with these more tangible projects, Beijing has also begun to promote the wider use of its own currency and has established a variety of mechanisms for enabling cross-border financial transactions. These bypass existing, Western-dominated institutions, thereby reducing the susceptibility of China and its regional trading partners to scrutiny and possible sanctions.[223]

To help finance the OBOR, Beijing created the Asian Infrastructure Investment Bank in 2014, and a year later played a leading role in establishing the New Development Bank (NDB). These entities, both of which are headquartered in Beijing, are widely seen as providing alternatives to the World Bank or other Western-controlled sources of funding. In contrast to those Western sources, these new institutions will not impose governance conditions, such as requiring proof of progress on improving transparency and countering corruption in return for loans. Together with its own direct investments, Beijing evidently intends to use these new mechanisms not only to fund infrastructure projects and promote economic development but also to help the other poorer, weaker autocratic regimes around its periphery resist Western pressures for political reform.

Separately and together, Russia and China have taken a variety of other steps to enhance the security of their own borders by strengthening cooperation with their authoritarian neighbors. In 2001, Beijing launched the Shanghai Cooperation Organization (SCO) together with Russia and four Central Asian Republics (Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan), through which they have sought to counter the "three evils" of terrorism, separatism, and extremism. Beijing evidently hopes to expand the SCO's activities, presumably to help protect some of its planned investment in Central Asian infrastructure and resources under the OBOR initiative. A few months after OBOR was announced, China hosted the SCO's largest joint military exercise to date.[224] For its part, Moscow has been trying to breathe new life into its Collective Security Treaty Organization (CSTO). Originally intended to bind the former Soviet republics in a collective defense structure that would mirror NATO, the CSTO has lost members since its founding in 1992, but still provides a venue for security cooperation with Belarus, Armenia, Kazakhstan, Kyrgyzstan, and Tajikistan.[225]

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[221] McGregor, "China's Drive for 'Indigenous Innovation.'"

[222] See Nadège Rolland, "China's 'Belt and Road Initiative': Underwhelming or Game-Changer?" *Washington Quarterly* 40, no. 1 (2017): 127–43.

[223] See the discussion in Nadège Rolland, *China's Eurasian Century? Political and Strategic Implications of the Belt and Road Initiative* (Seattle WA: National Bureau of Asian Research, 2017).

[224] "SCO Exercise Peace Mission 2014 to Involve 7,000 Troops," *TASS*, August 19, 2014.

[225] See "Russian-Led CSTO Alliance Vows to Face Down Threats, From Europe to Central Asia," *Sputnik,* October 16, 2016.

Working through the EEU, SCO, and CSTO, Russia and China have helped local rulers retain their grip on domestic political power by, among other measures, exchanging information on dissidents and regime opponents, sharing "techniques of political control," and promoting "state cooperation in refoulement of exiles and the cross-border abduction of individuals targeted by security agencies."[226] Outside the realm of hard, coercive power, Moscow and Beijing have also intensified efforts to construct and spread what Alexander Cooley refers to as authoritarian "counternorms and counterpractices." Thus, as they have done at home, the authoritarian big powers have encouraged others to use appeals to "civilizational diversity" and calls for the defense of "traditional values" to rally support from their own people and to defend themselves against "liberal democracy's universalism—its claim to be the sole legitimate form of human governance."[227] According to Carl Gershman, the president of the National Endowment for Democracy, the goal of these efforts is "to replace established norms contained in the Universal Declaration of Human Rights and other international covenants with alternative norms based on unrestricted state sovereignty and justifying harsh measures against political and ethnic dissidents, who are often called terrorists." As we have seen, Moscow and Beijing have been especially eager to gain wider acceptance for the concept of "Internet sovereignty" and are becoming "more assertive internationally and regionally [in] promoting cybersecurity policies that emphasize concepts of state security at the expense of human rights."[228]

Both Russia and China appear to envision a regional system of like-minded states extending across much of Eurasia. United in a regional economy encompassing a significant fraction of the world's population and linked together by a network of roads, railways, pipelines, and fiber optic cables, its members would cooperate in policing their populations, defending their frontiers (physical and virtual) against encroachment by democratic forces and ideals, and regulating their interactions with the wider global economy.

Moscow and Beijing would prefer that such a bloc have semi-permeable boundaries; in addition to trading with one another, its members would ideally be free to export whatever they wanted to the rest of the world and to import whatever they needed, including capital, technology, and natural resources. The authoritarians would be able to reach into the societies and political systems of the democracies at will in order to manipulate their behavior, but they would retain sufficient control of their own boundaries to block competitive goods, unfiltered information, and dangerous ideas.

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[226] Carl Gershman, "A Strategy for Democratic Renewal," National Endowment for Democracy, May 27, 2016, http://www.ned.org/a-strategy-for-democratic-renewal/.

[227] Alexander Cooley, "Countering Democratic Norms," in *Authoritarianism Goes Global*, ed. Diamond et al., 118–21. See also David Lewis, "The 'Moscow Consensus': Constructing Autocracy in Post-Soviet Eurasia," Open Democracy, May 25, 2016, https://www.opendemocracy.net/od-russia/david-lewis/moscow-consensus-constructing-autocracy-in-post-soviet-eurasia.

[228] Gershman, "A Strategy for Democratic Renewal." See also Mark C. Eades, "China and Russia Join Hands for Internet Censorship," Foreign Policy Blogs, May 2, 2016, http://foreignpolicyblogs.com/2016/05/02/china-and-russia-join-hands-for-internet-censorship/.

Conclusion

Conclusion

Contrasts

Despite their different evolutionary trajectories, Russia and China are members of the same species; their political systems, economic structures, and ideological programs are similar to one another in important respects and they differ markedly in each dimension from other regime types and, in particular, from the liberal democracies. Both Putin and Xi Jinping are "strongman" rulers, with considerable authority and decision-making power, who preside over political systems that go to great lengths to crush dissent and do not permit open debate or free elections. Both also deploy rhetoric that attacks the supposed universalism of "Western values," fuels historic grievances and warns of foreign threats to national identity and survival.

In addition to their notable similarities, however, the two main exemplars of nationalist authoritarian capitalism also have a number of clear differences in anatomy and behavior. Russia's economy is obviously smaller and less diverse than China's, its ideology is more flexible and improvisational, and its regime appears to be more brittle. Xi Jinping sits atop a massive, heavily bureaucratic party-state apparatus whose structures penetrate down through every level of society and the economy. Putin, by contrast, presides over a system that is far less thoroughly institutionalized and in which he is not only the key player but, on many issues, the sole decision-maker. Everyone in positions of authority was put there by Putin on the basis of their personal connections and their loyalty to him. As Hill and Gaddy put it, Putin's Russia is run not by an "old-boy network" but by a "one-boy network" in which "there are only vertical links up to Putin . . . and no real horizontal ties. Everyone, no matter who, needs to check back with Putin or refer back to Putin to legitimate his own positions, ideas, or general standing."[229] If Putin were to drop dead tomorrow, it is uncertain how his successor would be selected, still less who it might be, and it is by no means obvious how the current regime would reconstitute itself or whether it could even survive. The same cannot be said of China.

Although it has proven to be quite effective at killing, jailing, or exiling highly visible opponents, Putin's regime also appears less well-equipped than its Chinese counterpart to exert control over the country's population as a whole. While it owns or has a tight grip on the major television networks and newspapers, Moscow's ability to restrict the free flow of information over the Internet lags behind Beijing's. The content of Putin's ideological program has also evolved in ways that may have strengthened its appeal to poorer, older, and more socially conservative Russians while exerting less of a hold over the rising generation. Recent, widespread demonstrations give some indication that this may be the case, but they also illustrate the comparative weakness of Russia's institutions of social control.[230] China may experience

[229] Hill and Gaddy, *Mr. Putin*, 219.
[230] David Filipov, "Russian Police Arrest Anti-corruption Leader Navalny, Hundreds More in Nationwide Rallies," *Washington Post*, March 26, 2017.

dozens or even hundreds of scattered protests each day, mostly in response to local grievances. But there is virtually no chance that, as happened in Russia, a vocal regime critic could use YouTube and social media to turn out thousands of people to demonstrate against official corruption in dozens of cities across the country. Indeed, in the wake of Tiananmen, this is precisely the scenario that the nation's extensive network of surveillance and its finely honed tools of targeted repression were built to prevent.

As we have seen, the Russian and Chinese regimes are both motivated by mixtures of resentment, ambition, and anxiety. The blend is different in each instance, however: resentment and insecurity are the dominant elements in the Russian case, insecurity and ambition in the case of China. In addition to encouraging such sentiments among the Russian people, Vladimir Putin and his colleagues do seem to harbor visceral feelings of hostility toward the West, reflecting their own formative life experiences and presumably also their continuing frustrations over Russia's persistent weakness. China's leaders too resent the West for its arrogance and its past wrongdoing, but their ritualistic invocations of history seem increasingly to be more instrumental than heartfelt and they are clearly intended primarily for public consumption.

While Russian and Chinese leaders share a fear of encirclement and subversion, in recent years those concerns have appeared to be especially intense and immediate in the Kremlin. To a considerable degree, Vladimir Putin now seems to define his objectives largely in defensive terms: he wants to remain in power and to prevent the West from making further encroachments in Russia's "near abroad." Xi Jinping has similar concerns, of course, but his ambitions are loftier than mere personal survival and border security. While he must take care to fend off proximate threats, Xi has a broad vision of himself as the steward of a Party and a system that he must preserve and pass on to his successors, and as a leader with the historic responsibility of guiding his nation toward its eventual reemergence as Asia's preponderant state and as a global power second to none.

Some of the differences in Chinese and Russian strategy and policy have already been touched upon. Of the two, Moscow has been notably more acceptant of risk, more willing to use force and threats of violence, and more brazen and aggressive in its efforts to divide and destabilize the West. While Beijing's behavior has become less cautious since Xi took power in 2013, China continues to take care to calibrate its actions so as to avoid actual armed confrontation, even with the smaller and weaker powers along its periphery; its threats are still largely implicit and involve the possible use of economic leverage as well as military action. Beijing appears content for the moment to rely primarily on propaganda or "political warfare" to shape the perceptions and policies of those who might oppose it rather than the "active measures" designed to influence or undermine democratic political processes of the sort that Russia has deployed in recent years in Europe and the United States.

Implications

The preceding analysis has a number of implications for the policies of the liberal democracies: First, to the extent that the aggressive behavior of these illiberal powers is driven largely by internal preoccupations and obsessions, attempts at appeasement or efforts to find common ground for cooperation are unlikely to succeed in persuading them to alter course. Russia and China are not merely great powers; they are great powers with a particular type of domestic political regime. While neither seeks war with the West, the rulers of both believe that tension and confrontation are necessary in order for them to maintain their grip on power. Moreover, because of their fears of encirclement, what Moscow and Beijing would regard as an acceptable rearrangement of the situation along their frontiers will involve changes in the status quo that are unlikely to be acceptable to the democracies. For as long as the United States and its allies remain opposed to Chinese domination of the South China Sea, or to Russia's reabsorption of the Baltic states, Georgia, and Ukraine into its sphere of influence, continued tension and friction are inevitable and open conflict will remain a real possibility.

Of the two big illiberal powers, Russia represents a more serious near-term threat to peace and stability, while China poses a greater long-term challenge to the continued viability of the Western-led international order. Moscow's Cold War-style "rocket-rattling" and threats of nuclear use, its provocative maneuvering of conventional forces near the territory of other countries, its development of capabilities for subversion and irregular warfare, its surprisingly open use of cyberspace for purposes of political destabilization, and its demonstrated willingness to engage in cross-border aggression, all carry with them the danger of miscalculation, accident, and escalation. China's activities in the East and South China Seas carry similar risks, but at least for the moment, Beijing appears to be exercising considerable caution in avoiding actions that would sharply raise the risk of a serious military engagement with another major power. At the same time, Beijing's actions in the maritime domain represent a clear challenge to prevailing interpretations of the international law of the sea and, if allowed to proceed unchecked, would put it in a position to regulate the use of one of the world's most important maritime thoroughfares. Meanwhile, along its continental frontier, Beijing has embarked on a massive infrastructure and investment program which, if successful, could bolster authoritarian regimes across Eurasia, linking them more closely to China and effectively insulating much of the continent from further Western efforts to promote economic and political liberalization.

If Russia is more prone to risky behavior, it is also, for reasons that have been suggested, more vulnerable to economic leverage and potentially to political pressure as well. Because of its lack of diversification and substantial dependence on European markets, Russia is more susceptible to sanctions than China, and while its energy exports give it some options, it has fewer means of inflicting retaliatory punishment on its Western trading partners. Despite Moscow's paranoia about "color revolutions," and its own egregious interference in the internal affairs of the democracies, the West has actually done very little in recent years to weaken the current regime or to assist those in Russia who favor political reform. One reason that Vladimir Putin has gone

to great lengths to cultivate an image of pugnacious unpredictability may be precisely because he fears and hopes to deter such "active measures" against him. With or without external pressure, the likelihood of meaningful political change over the course of the next decade appears to be greater in Russia than in China.

Russia and China are today pursuing similar, parallel strategies of modulated aggression toward the West. While it is possible that their policies could become more closely integrated and coordinated in the future, it is also conceivable that the two could diverge from one another, perhaps even lapsing into the kind of mutual suspicion and hostility that characterized their interactions during much of the Cold War. The question confronting Western strategists is what they can do to reduce the prospects for effective cooperation between the authoritarian powers and whether—and if so, how—they should seek to drive a wedge between them.

At least for the moment, closer cooperation between Russia and China is more likely than a new Sino-Russian split. China's growing demand for energy and its continuing need to import at least some forms of military technology make it a natural trading partner for Russia. The two authoritarians may not have a common ideology, but they share a fear of, and an animosity toward, liberalism and Western claims of universal values. Both proclaim themselves to be dissatisfied with various aspects of the existing international order. Western resistance to their attempts to alter the geopolitical status quo along their respective peripheries is also propelling Moscow and Beijing toward one another rather than pushing them apart. Even if the democracies were to offer to take a more accommodating stance toward one or the other authoritarian power, it does not follow that this would necessarily put them at odds with one another. Lifting sanctions on Moscow and even accepting its claims to a dominant influence in Ukraine would not lessen its desire to sell energy and arms to China. Nor would backing away from territorial disputes in the East and South China Seas provide Beijing with any incentive to lessen cooperation with Moscow.

In the 1960s and 1970s, the United States took advantage of, but did not create, doctrinal disputes and strategic mistrust between China and the Soviet Union, leaning toward the weaker of the two in order to balance more effectively against the stronger. Something similar could happen again if, for example, Russia were to experience genuine political liberalization, opening up an ideological gap between Moscow and Beijing. Alternatively, most likely as a result of the continued growth of Chinese power and its accelerating, OBOR-driven encroachment into Central Asia and even Central Europe, areas once dominated by Russia, Moscow could come to see the greatest threats to its interests and security as emanating from the East rather than the West. In the meantime, even at the risk of encouraging further cooperation between them, the democracies have no choice but to do what they can to counter both Russian revanchism and Chinese revisionism.

The Authoritarian Challenge:
China, Russia and the Threat to the Liberal International Order

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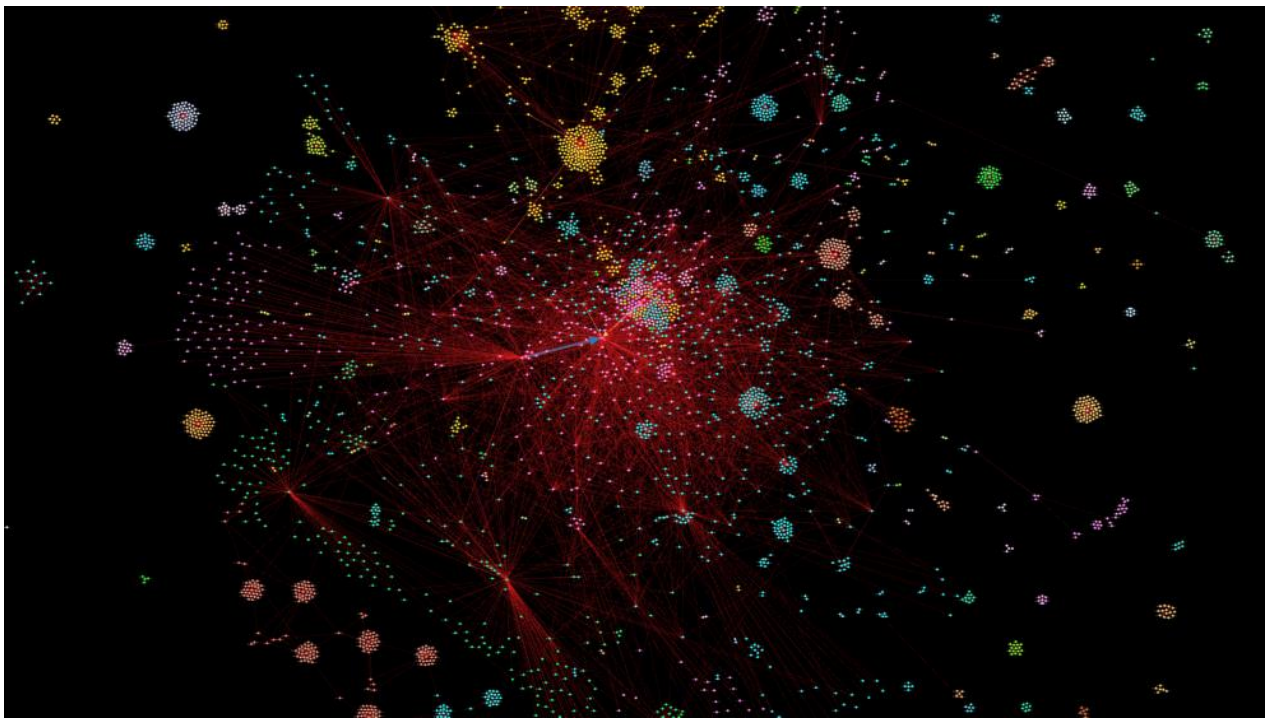
Centre for Information Resilience

Analysis of the Pro-China Propaganda Network Targeting International Narratives

Centre for Information Resilience

Analysis of the Pro-China Propaganda Network Targeting International Narratives

By Benjamin Strick



This report shows a coordinated attempt, using a mix of fake, real and stolen social media accounts, to distort international perceptions on significant issues, elevate China's reputation amongst its supporters, and discredit claims critical of the Chinese Government.

The narratives amplified by the accounts are similar to those promoted by Chinese Government officials and China state-linked media.

This report analyses the tactics, techniques and narratives of pro-China networks and how they are used to disseminate digital propaganda on western social media networks.

Centre for Information Resilience

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Executive summary

A coordinated influence operation on Twitter, Facebook and YouTube is using a mix of fake and repurposed accounts to push pro-China narratives and distort perceptions on important issues.

The network targets significant subjects such as US gun laws, COVID-19, human rights' abuses in Xinjiang, overseas conflicts and racial discrimination in a bid to inflame tensions, deny remarks critical of China, and target western governments. The content was posted in English and Chinese.

The narratives seen in this influence operation have similarities to content seen on the accounts of Chinese Government representatives and China state-linked media, however this is not an indication of attribution.

Pro-China influence operations have maintained a consistent presence on western social media platforms with early operations being identified as far back as April 2017. These operations offer an insight into the tactics, narratives and targets of information campaigns waged to elevate China's status, and discredit opponents at the political and individual level.

This influence operation has similar hallmarks to networks that were taken down by social media platforms in the past. It is likely that this operation is a continuation of those past efforts.

The accounts identified in this influence operation on Twitter used a mix of StyleGAN machine-learning generated images as profile pictures and relied on a much larger network of accounts using more authentic appearing images, anime images and repurposed accounts.

On Facebook and YouTube, many of the accounts appeared to be repurposed as well. There was evidence of previous authentic-appearing ownership of the accounts indicating that at some point there was a change of ownership, either through a takeover from password dumps or a purchase from a seller of stolen accounts.

By conducting a manual review of many of the accounts across all platforms, we estimate there are between 300-500 accounts on Twitter, 40-55 accounts and pages on Facebook and 12 accounts on YouTube.

Why is this report important?

This research is evidence of a deliberate effort to distort international perceptions on significant issues.

In this case, the perceptions are in favour of China. If we value the ability to have open and honest discussions and develop informed opinions on social media, then understanding who is trying to influence us, and how, is important.

About this report

This report is based on publicly available information. While the evidence is used to identify narratives, tactics, and techniques, attribution remains with the social media platforms with access to significantly more data than external researchers.

This report does not intend to overstate the network's impact. The network is spread across multiple platforms, and artificially boosts its own content. While there are verified state-linked accounts sharing similar content, this report focuses on the inauthentic behaviour of the influence operation, and its content.

In assessment of potential links, actors and origins of the networks seen in this report, we do not have strong attribution signals. It should be noted that in some cases, elements of the network may be the result of third parties providing services used by actors for amplification.

China and influence operations

Pro-China propaganda networks have been exposed in the past by research groups working in the influence operations research field. Much of that reporting has been reported off the back of takedowns by social media platforms.

Past reporting from Graphika has termed similar pro-China propaganda networks as 'Spamouflage Dragon'. Notable reports on the Spamouflage Dragon networks were from 2019, 2020 and 2021. The Australian Strategic Public Policy Institute (ASPI) also covered pro-China networks in 2020, as well as Stanford IO in 2020, and Bellingcat in 2020.

Common tactics that overlap between past influence operations and this one are:

- The use of text-heavy images on Twitter
- The presence of repurposed accounts from previous owners that never posted in Chinese or about any political issues but now appear to only communicate in Chinese and post about western news and pro-China content
- The use of pro-China anti-west sentiment, and
- The tactic of using accounts only for sharing content, and others only for posting

The content of the social media posts seen in this influence operation and those promoted by China state officials and state media is very similar. The areas of crossover are on topics such as denial of human rights abuses in Xinjiang, connecting issues of gun violence and human rights in the US, targeting discrimination in the US and speculation over the US handling of COVID-19 issues.

Removal of these networks is often publicised by social media platforms in transparency reports; they show examples of content shared in past networks and how it was shared. For example, in 2019, Twitter announced the takedown of a pro-China information operation 'attempting to sow political discord in Hong Kong'.

Facebook also announced takedowns in 2019 of accounts that originated in China and focused on Hong Kong.

While there are similarities with past networks that have been identified by research groups and have been removed by social media platforms, this research does not intend to attribute this network; the platforms will inevitably have more data to make a more informed attribution.

Methodology

Collection

Data was collected from social media platforms for the purposes of this report through both API access and manual social media search techniques.

The search for the content started with the identification of specific hashtags that have been targeted by pro-China influence operations in the past.

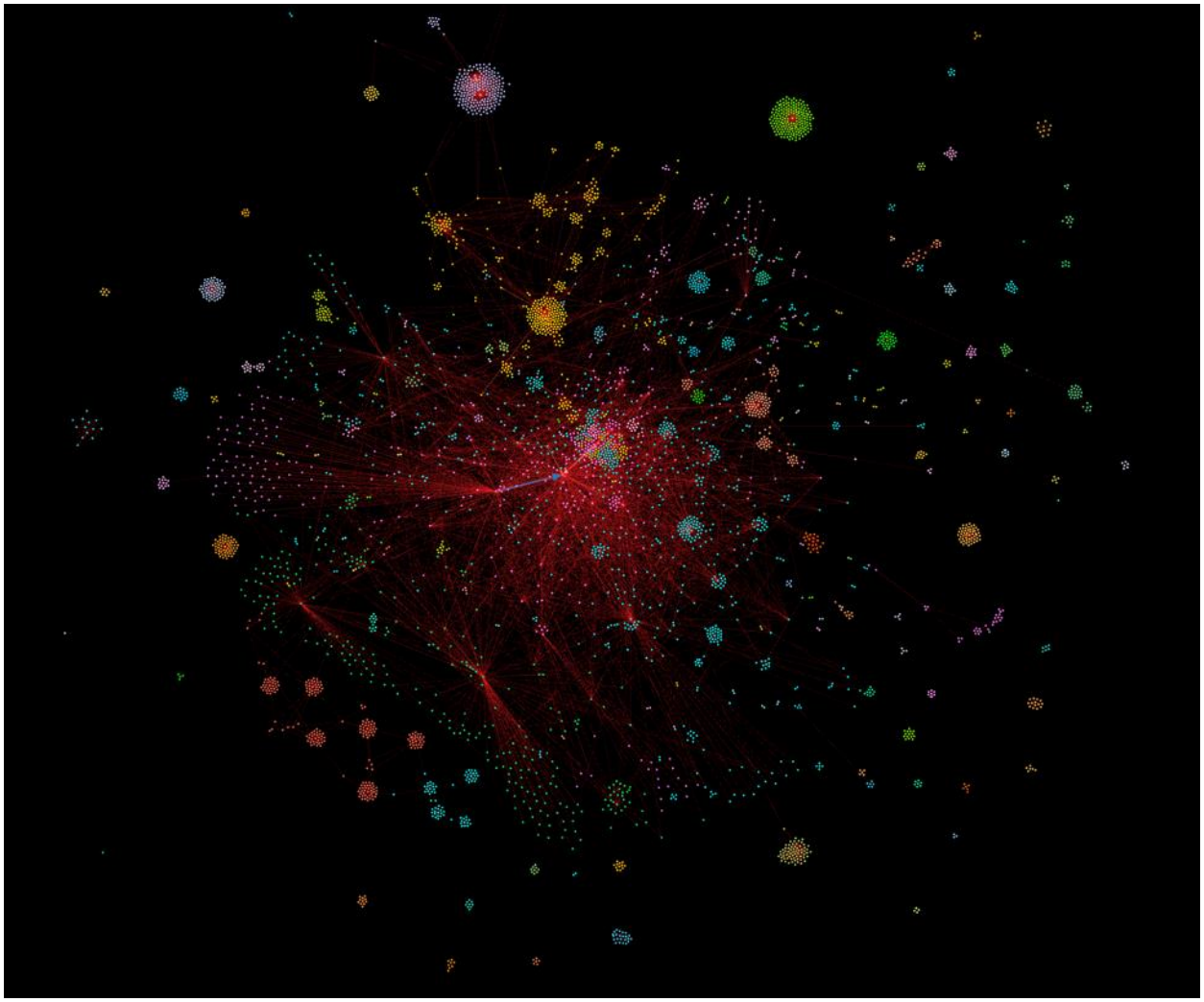
The research started with three main hashtags of simplified terms:

- #香港 (Hong Kong)
- #美国 (United States), and
- #郭文贵 (Guo Wengui)

Those hashtags were used to collect data from Twitter via the platform's API. The hashtags were used in tweets with either Chinese or English text. Where Chinese text was present, auto-translate features were used to analyse tweet content.

After collecting data for a period of one month, the data was processed and cleaned. This facilitated the visualisation of the network via Gephi – a data visualisation platform.

That network of those hashtags was visualised as is, below.



This data visualisation represents the whole of Twitter's activity under the three associated hashtags.

In the visualisation there are small dots which are referred to as nodes; they are the accounts that posted about those hashtags during the collection process. The lines between them, seen in red, are where interactions were strong, such as numerous mentions or retweets between accounts.

This visualisation itself does not represent the whole network in this report. Rather, it shows all of the network discussion around the three hashtags. This network visualisation is useful as it allows the research to be shaped and then further investigated to identify signs of possible automated accounts and the links they might have with other accounts.

During our research, we found there was automation of accounts that posted anti-Chinese Government posts. These are discussed at a later stage in this report. However, it does indicate that by collecting the whole discussion around specific subjects, varying findings can be made.

After the larger visualisation of the data was complete, further analysis of the individual groups of accounts (known as clusters) was performed to check their 'status': as to whether they were part of a coordinated influence network, whether they were using the same text, or if they were normal human user accounts having a legitimate public discussion on content around the three hashtags.

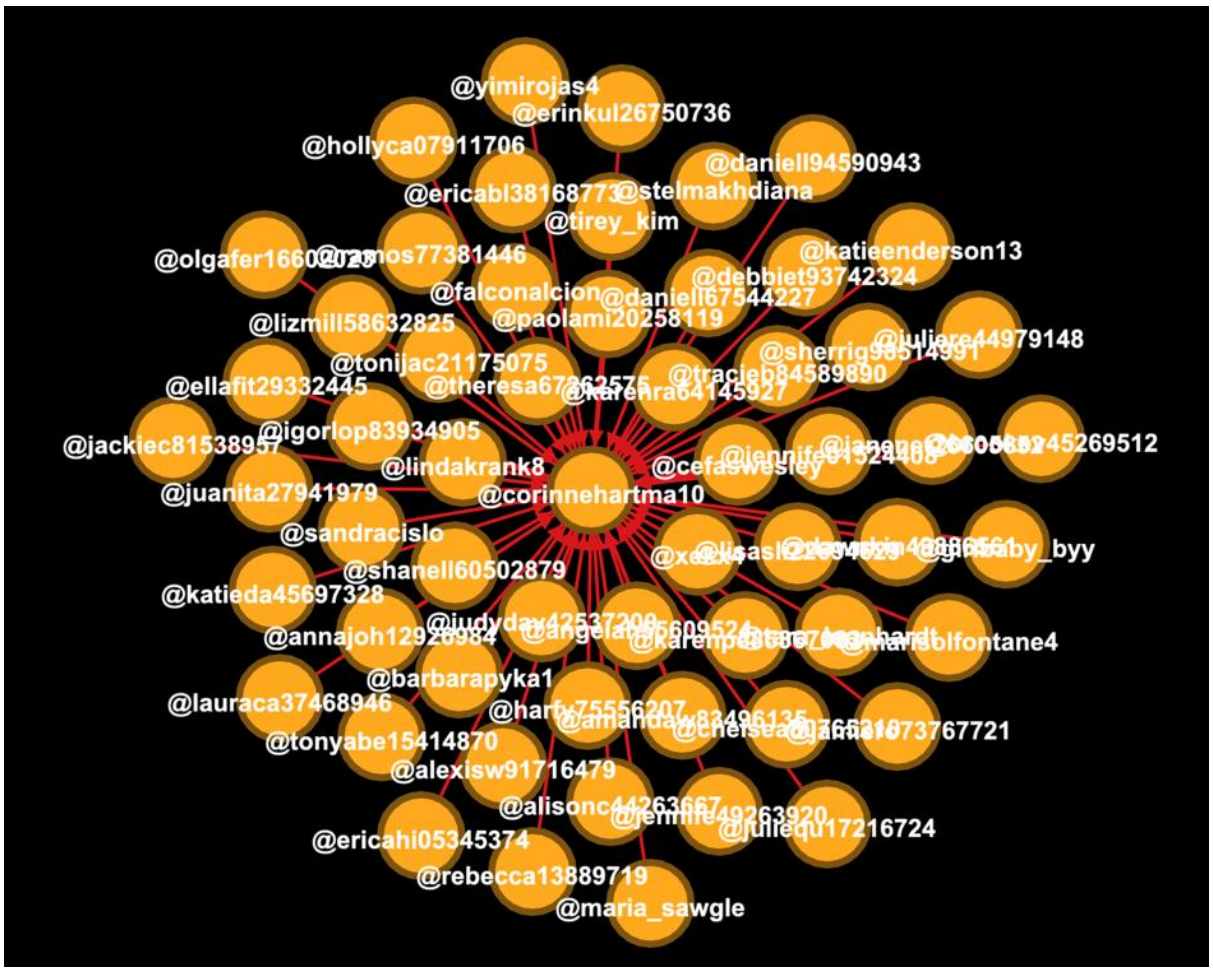
In determining an account's status, some indicators were looked at for each account, such as:

- What was the activity of the account? Were they repeatedly tweeting using the same hashtag?
- Was the content tweeted similar to narratives identified in other reports? Was it a human rights denialist? Did it appear as propaganda?
- Did the account have a unique username? Or did it appear to have a randomly generated Twitter handle?
- Were there personal profile specifics such as a profile picture, cover photo or bio?
- What was the age of the account? Was it recently created?
- What were the account's metrics? Did it have many followers?
- Did the account have a high retweet ratio? Or was it only posting content without interacting with other content?

By following this checklist of questions to sort from authentic activity in the network to influence campaign-linked accounts, we were able to identify clusters of accounts.

Once clusters were identified as possibly involved in the campaign, their accounts were scraped for information such as: what they posted, who was liking their content, who they were following and the bio, creation date and profile information.

When identifying some of the clusters as part of the network, we were able to identify 'batches' of accounts that were part of the same network. This was mainly done by looking at who retweeted content, and who liked content. An example of one of these batches can be seen below.



More analysis of 'how' those clusters operated is discussed further in the report.

After those batches were identified, the topics they were posting about or sharing was analysed, and 'lists' of accounts on Twitter were built to monitor the accounts.

The accounts were split into two categories in those lists:

- **'Posters'**: Accounts that tweeted content and did not use any retweet or like functions. Rather, their job was to post original content.
- **'Amplifiers'**: Accounts were there to retweet, like and comment on tweets made by the poster accounts. This made the tweets from the poster accounts look legitimate in appearance with retweets, likes and comments. Some amplifier accounts also acted as followers, giving the poster accounts the appearance that they had legitimate follower numbers.

Those poster and amplifier accounts were monitored for changes in tactics and the observation of new narratives as they were introduced into the networks. Many of those new narratives were easily identified as they came in 'waves' of tweets and infographics.

For example, a new set of images and text was fed into the network two days after US President Biden's announcement to withdraw troops from Afghanistan. Tweets were uploaded with the tag #美国 (United States). Some of the posts asked: "what did the US do in Afghanistan?" to raise doubts about the US and its overseas operations.

Narrative identification

When new narratives were identified, such as the example of the overseas wars above, common keywords were selected and were added to the API collection to capture activity on the spread of the new narratives, as well as the existing campaigns.

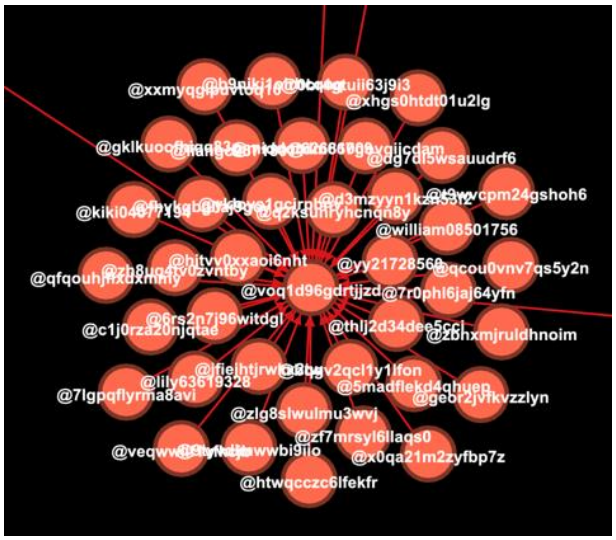
After the collection of more than 4000 tweets during March and April 2021, we then focused on looking at individual amplifier accounts and the content they had posted in the past. By doing this, we could identify where links were made away from Twitter, such as to blogs, various news sites and YouTube.

For example, the cluster identified below shows numerous nodes (accounts) surrounding a central node.

The central node is the poster, which in this case is account @voQ1d96GDRTjJZD. The tweet from the poster can be seen on the right.

The accounts surrounding poster @voQ1d96GDRTjJZD are the amplifiers.

By following the activity of poster @voQ1d96GDRTjJZD, we were able to identify further topics the accounts in the network was posting about or sharing, indicating more narratives.

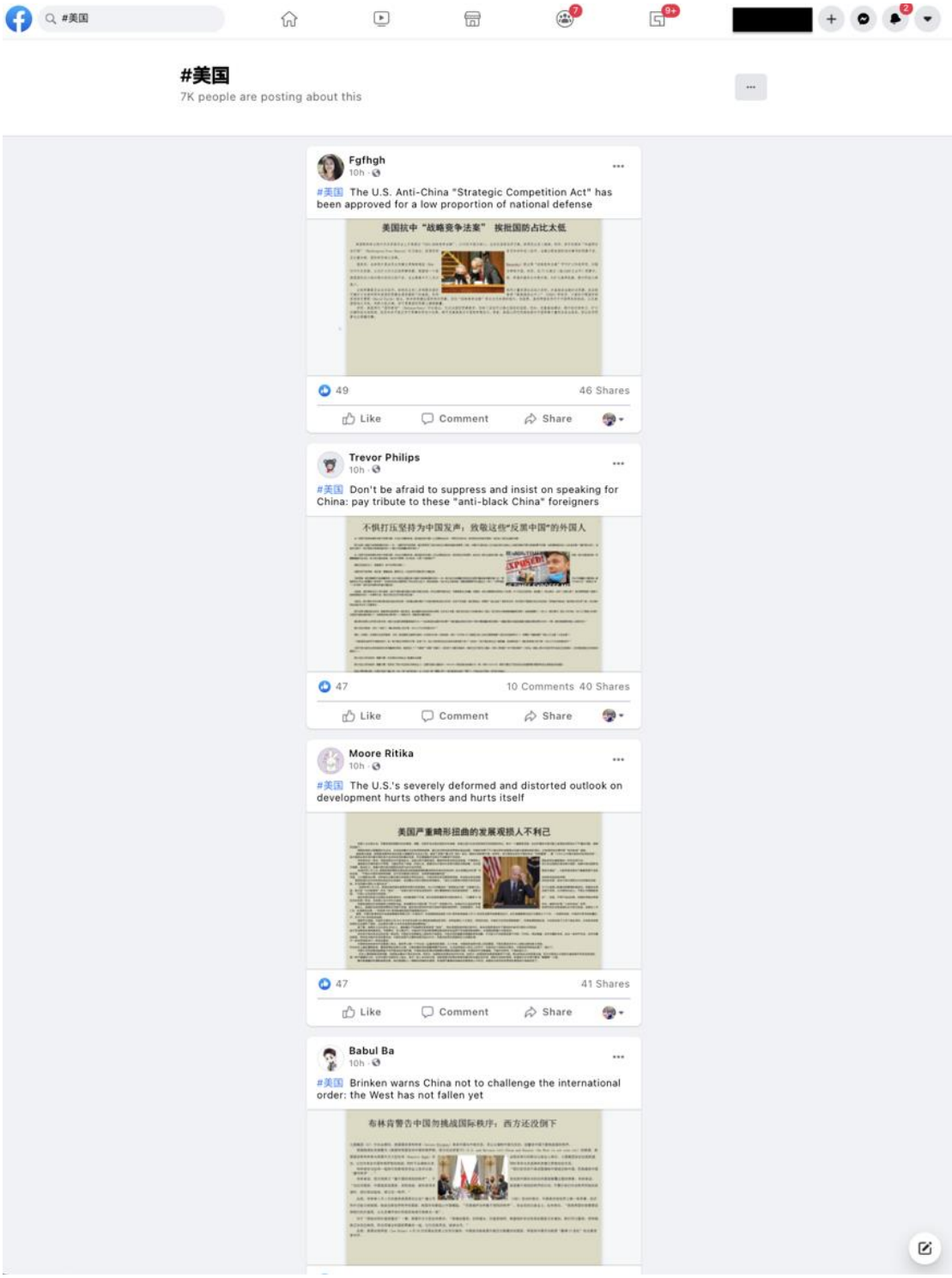


Cross-platform research

After the collection of keywords from Twitter, a follow-up manual search was conducted on Facebook, Instagram and YouTube using various digital research techniques and tools.

When accounts were identified as having shared similar or same content (either through same text, or similar infographic-style images) they were further analysed for narratives as well as TTPs.

For example, below is one of the search results for the tag #美国 (United States) on Facebook. These posts were often the same, if not similar, to the posts identified as being amplified by the networks through Twitter.



Data analysis

While there is a dependency on tools to collect, visualise and analyse the data collected in this research, we relied on manual open-source verification of that data where possible.

The reliance upon mass data analysis tools may misidentify the level of automation of accounts, the origin of accounts, or the legitimacy of the content those accounts produce.

One way we mitigate this is the follow-up analysis we conducted after collecting accounts associated with specific hashtags or keywords. After collecting those accounts, we manually investigated the accounts before assessing their role as part of a campaign, or just part of a network communicating about a subject the campaign is targeting. We take this step to mitigate potential risks of misidentification of automation or role as part of a network.

Privacy

During the research and identification of this influence campaign, we identified a number of accounts that we believe were not purpose-made to serve the network, but rather were previously owned by authentic human users.

Where necessary, in this report, we have redacted their details so as to maintain the privacy of those unintentionally affected individuals who we suspect may be unaware their accounts are being used as part of a pro-China propaganda campaign.

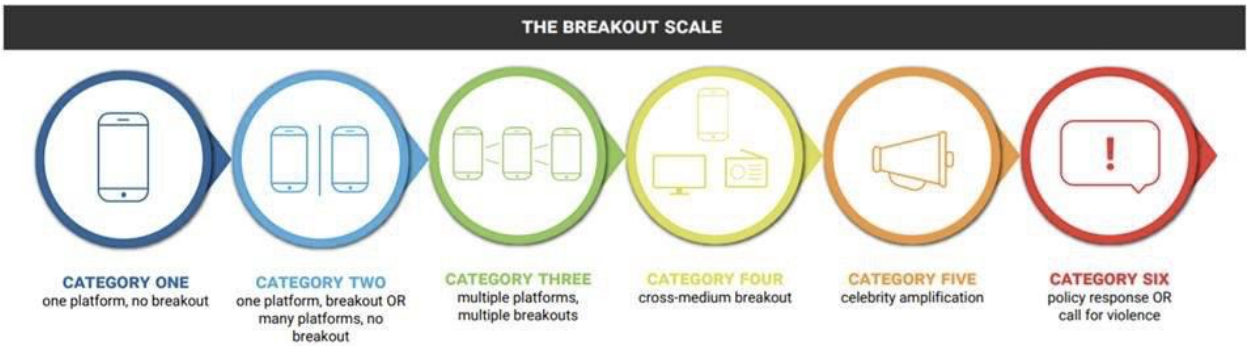
Limitations

It should be noted that this process only uses publicly available information. There are limitations in this reporting as our research is based on a portion of the data which social media platform investigation teams have full access to. In consideration of that, we identify what is visible and provable through scrutiny of the data available to us and report those findings to the platforms for their consideration. We attempt attribution where we are certain and can independently prove elements.

Measuring impact

Assessment of the impact of this network, and others like it, are difficult given the nature of these large, multi-account and cross-platform campaigns. However, one proven method to provide a simple categorised indication of the impact of the network was summarised in a report detailing a 'Breakout Scale' by influence operations specialist and Facebook Global Influence Operations Threat Intelligence Lead Ben Nimmo.

The Breakout Scale is a model that addresses the challenge of assessing the impact of influence operations and disinformation. It divides influence operations into six categories indicative of 'whether they remain on one platform or travel across multiple platforms (including traditional media and policy debates), and whether they remain in one community or spread through many communities'.



We assess, given the available data and the limitations of not having access to full user data, that this network could fall within the parameters of 'Category Two' on the Breakout Scale, namely due to the multiple platforms we have identified its presence on, but minimal breakout into authentic communities. Much of this network's content, as far as we have identified, has only been shared by other accounts in the network with the purpose of amplifying that content.

In the network identified in this report, we estimate there to be between 300-500 accounts on Twitter, 40-55 accounts and pages on Facebook and 12 accounts on YouTube. However, there are limitations to the searchability of these platforms and auto-deletions that may affect this estimation. Therefore, the actual size of the networks will be best figured by the related platforms.

We also found that some of the accounts on Twitter and Facebook had different traits compared to those in this network and more common of those associated with pro-China networks. We believe these may be either 'bought' accounts or accounts hired through a vendor for the purpose of spreading campaigns. This means there may be 'cross-network' amplification and may be attributable to a different actor.

Part one: Multi-platform spread

The majority of the network collected in this research was found to be present on Twitter, followed by Facebook, YouTube then Instagram (in order of count).

This does not necessarily indicate the preference of Twitter as a platform to use, as there are other limiting factors that could explain this count such as the searchability of each of those platforms for accounts, or other factors such as access to purchasing these accounts for the network, or ease of creation of amplifier and poster accounts.

Repeated text and media were also identified on Facebook, Instagram and YouTube, similar to past reporting.

The main techniques we identified that were utilised on each platform were:

- **Twitter**: Large numbers of accounts with some acting as content posters, while the majority acted as content amplifiers. The accounts held a mix of profile images, but a noticeable trait was the use of the StyleGAN images.

- **Facebook**: Use of previously human-owned accounts to spread activity, amplification networks with a mix of repurposed and new accounts, some with StyleGAN images, to push narratives through post and comment functions.

- **YouTube**: Dispersal of narratives through video content ranging from well-produced productions to short infographic style content. Many of the accounts were identified as having previous owners, with significant gaps in uploads and often changing from a non-English language to Chinese after years of no activity. The comments section underneath videos were also used as a tool for amplification of narratives by what appears to be fake accounts – some of which also uploaded the same video content.

Twitter: Amplification rings and StyleGAN accounts

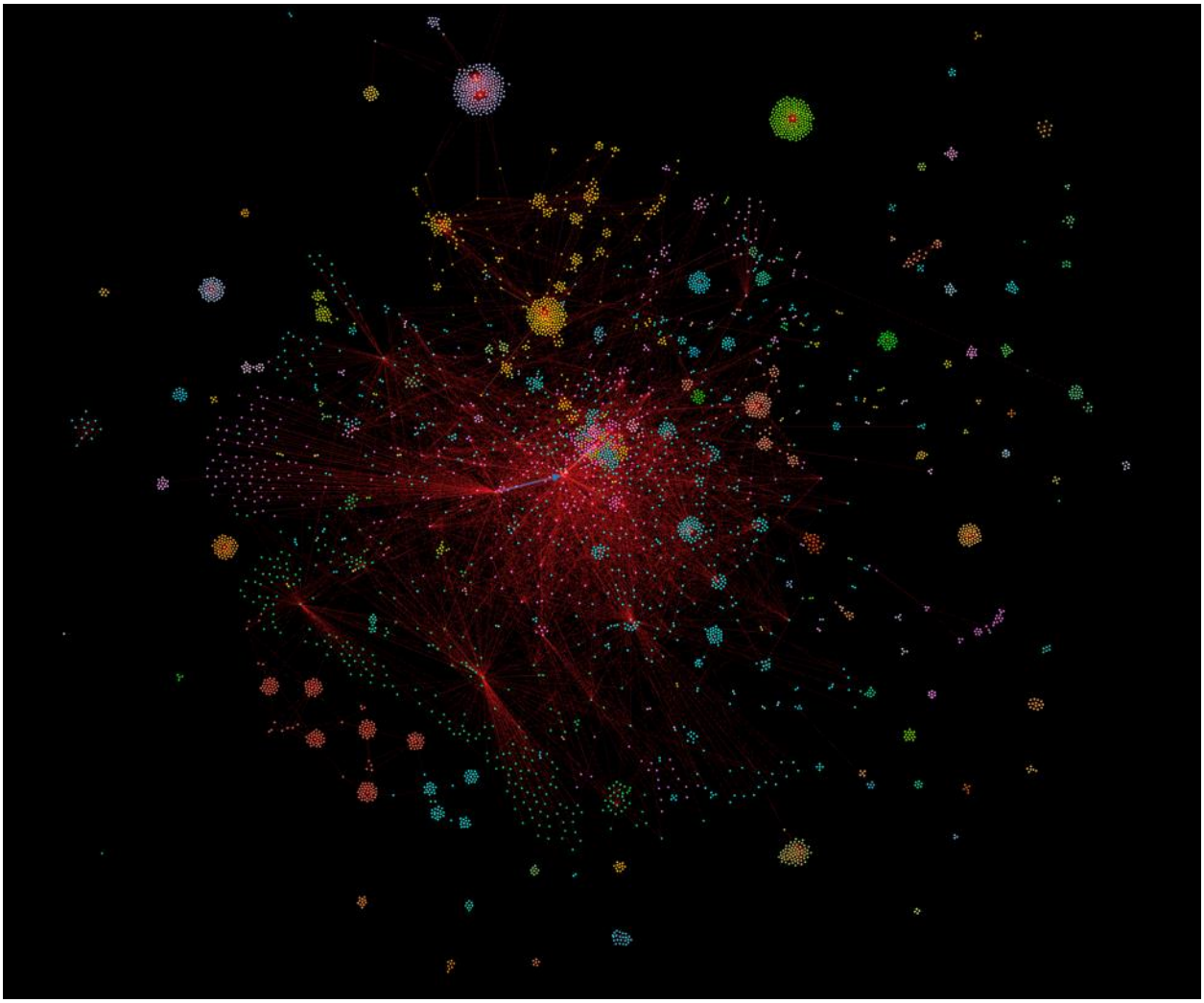
Data was collected from Twitter using the API and the following hashtags:

- #美国 – (United States)
- #郭文贵 – (Guo Wengui)
- #香港 – (Hong Kong)

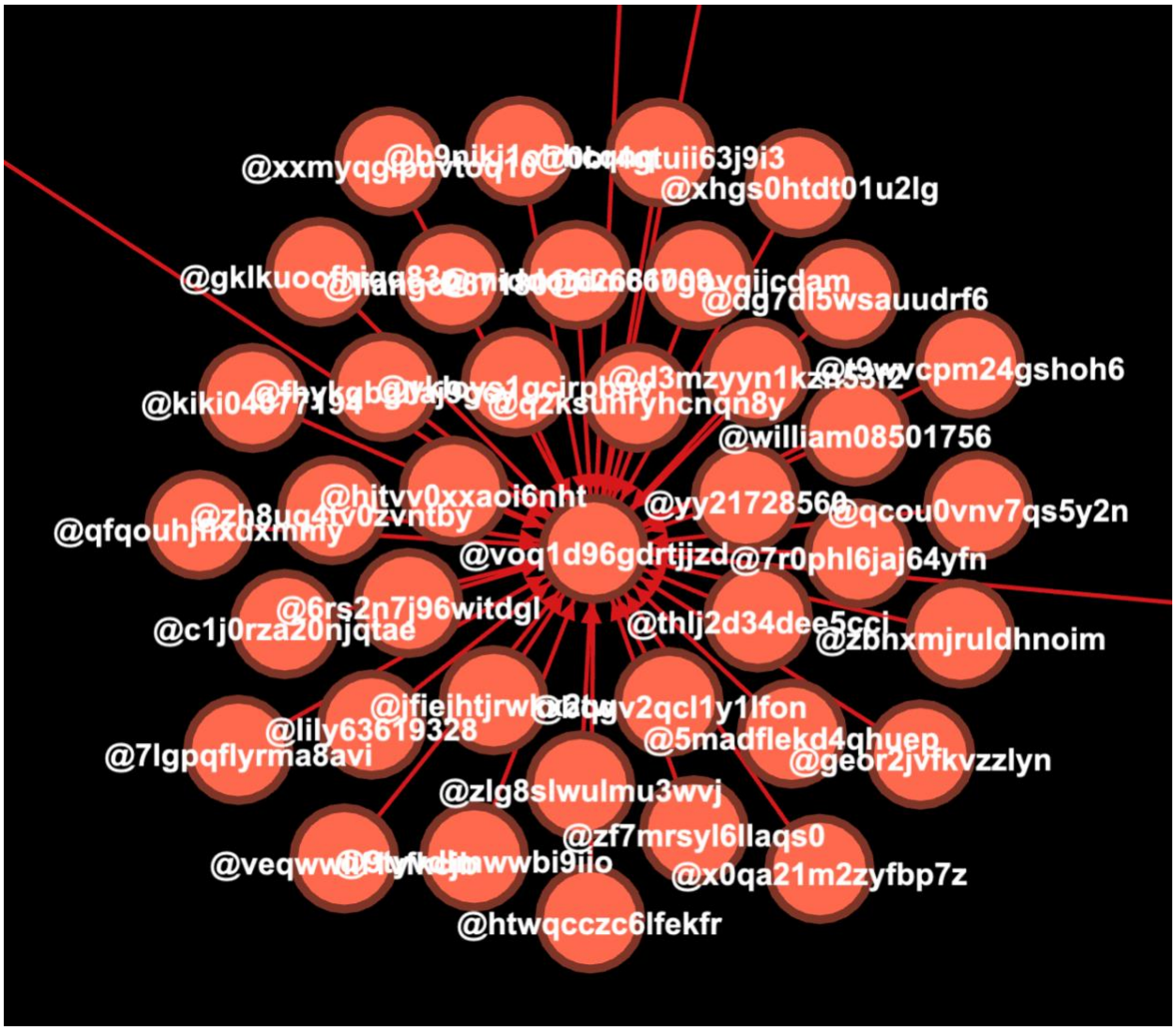
These tags were repeated targets of pro-China propaganda sentiment and amplified or discredited subjects using those hashtags.

However, it should be noted that not all of the content under those hashtags was pro-China content. Rather, there was a mix of authentic users joining the international discussion around those topics, as well as other propaganda. Anti-CCP propaganda was also present in content under these hashtags. Similar elements of that anti-CCP content were identified in this report from Graphika on social media platforms with a strong presence on Twitter.

All the data collected was visualised in a network graph format through Gephi for further analysis of the way the networks operate in terms of original posters and the amplifiers. This visualisation can be seen below. In the graph, each small node represents a Twitter account, the red lines seen between some of the accounts represent the weight of interactions.

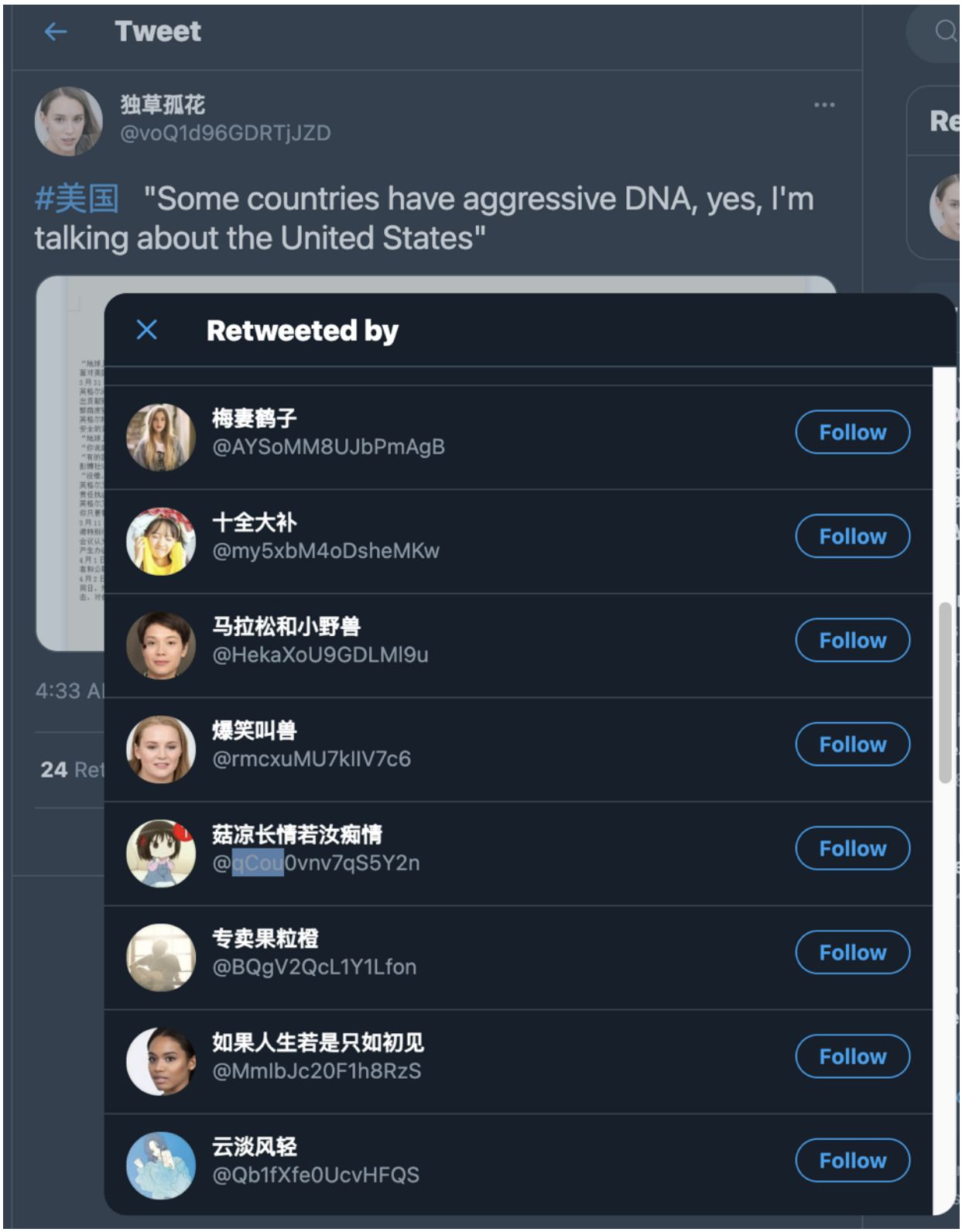


We can see the nature of how some of the accounts operated in the network in more granular detail by looking at accounts that were identified as repeatedly posting pro-China propaganda. For example, account @voQ1d96GDRTjJZD is centred in the middle of the cluster below.

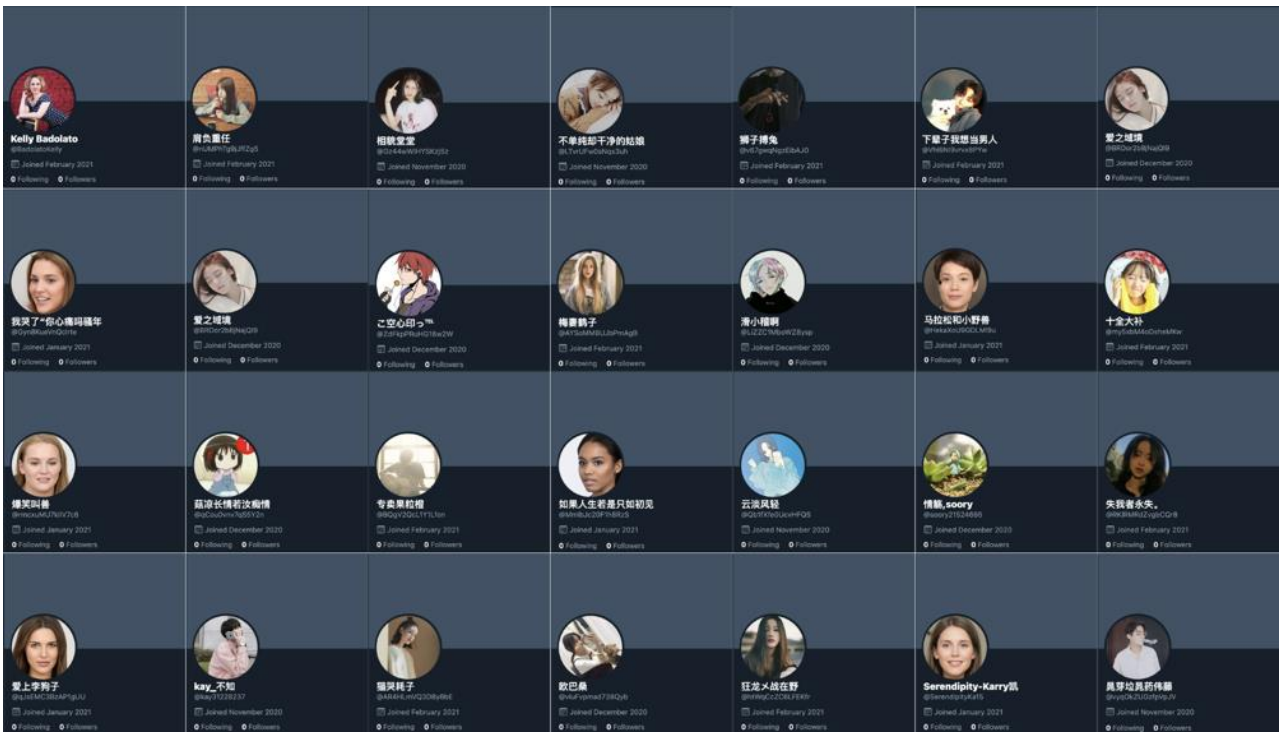


We can see the surrounding accounts that are clustered around the central account of voQ1, which correlates with what we see on Twitter in the screenshot below.

Below is a screenshot of the accounts that retweeted that post seen above.



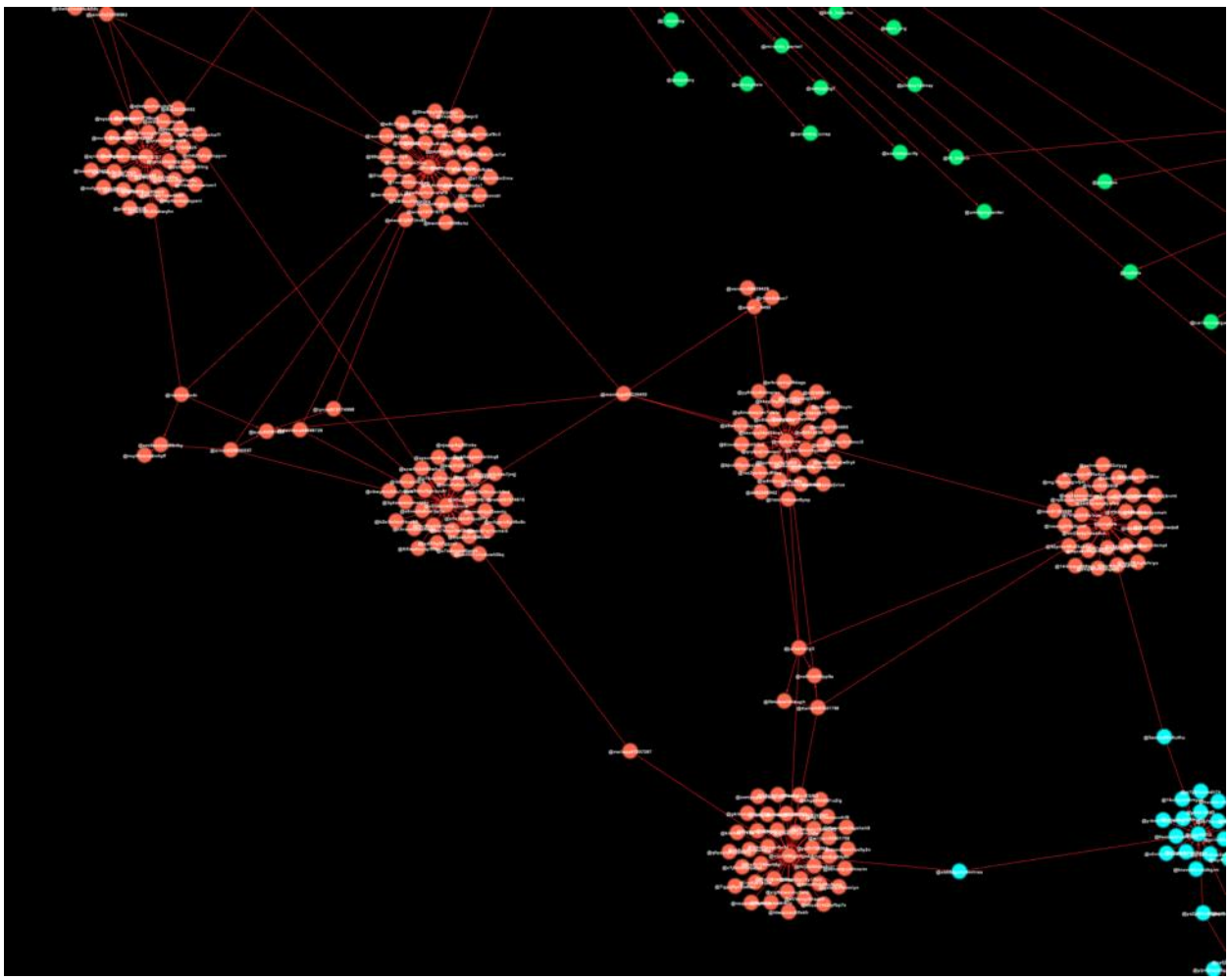
All the accounts retweeting that post, and many others like it, follow zero accounts, and have zero followers. Their purpose is to amplify content.



This cluster is not alone, many of the clusters we identified in the entire network follow the same process and carry the exact same traits.

Through the Gephi visualisation, the clusters were coloured based on modularity, or the strength of their connections within the clusters.

For example, many of the accounts in the clusters below, especially the amplifier accounts, were directly connected through either interactions, or through the accounts they followed. This is why they are all indicated by the same colour, due to their strong connections of follows, likes and retweets.

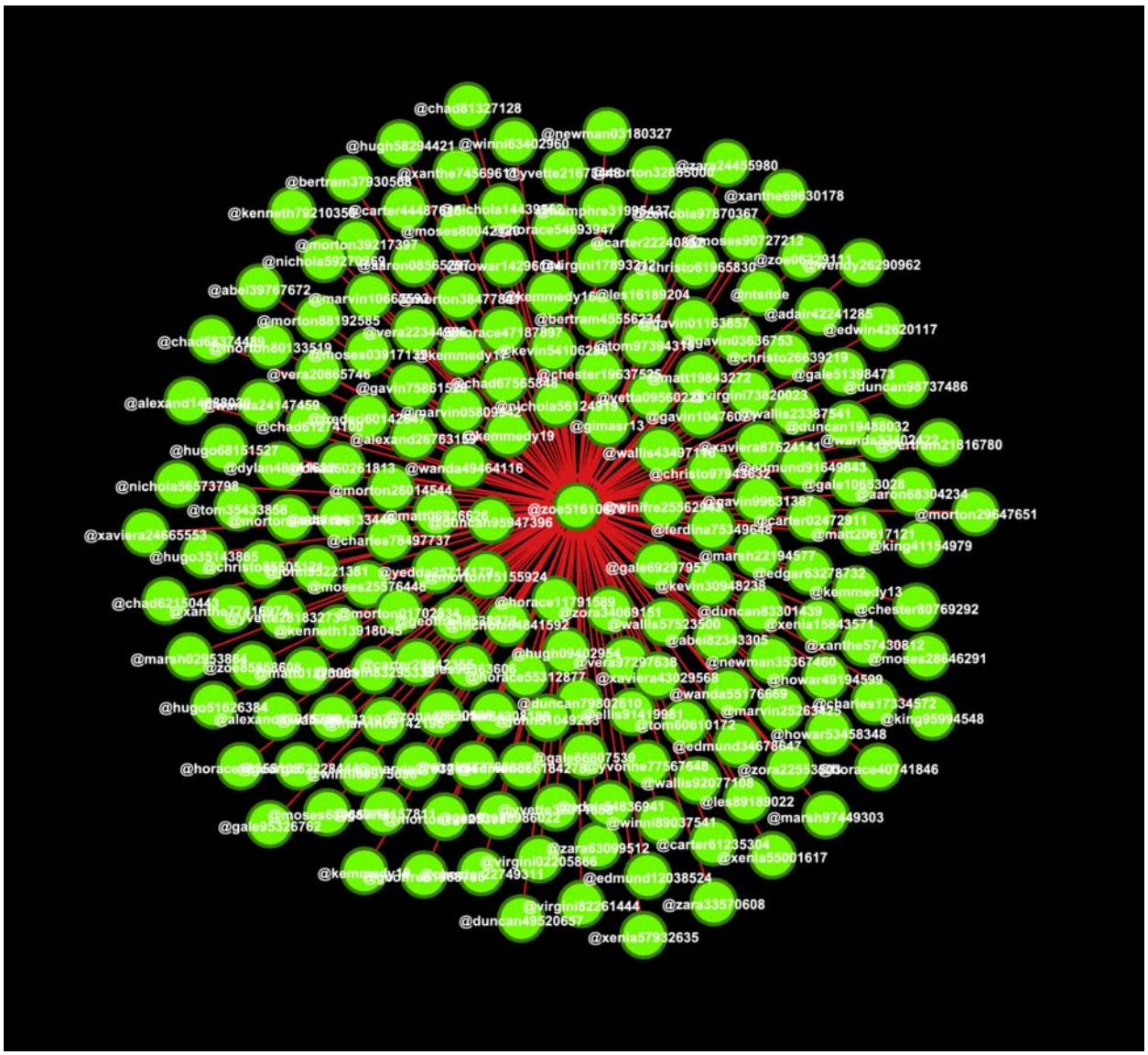


Another example of the clustering of amplifiers can be seen in the analysis of a tweet by user @Zoe51610873 (below) that had 152 comments, which is abnormally high in comparison to the 11 retweets and four likes of the post. It appeared many of these were iterations of support for the post with comments such as “that’s funny”, “I’m embarrassed to hear that” and “just rediclious ! amazing!”.

Zoe @Zoe51610873 · Mar 24
Replying to @Zoe51610873
That's ridiculous
Zoe @Zoe51610873 · Mar 25
Replying to @Zoe51610873
yes,it is funny
linxin @huanglinxin963 · Mar 25
Replying to @Zoe51610873
really funning
iTeller_zc @ItellerZ · Mar 23
Replying to @Zoe51610873
just rediclious！ amazing!
Nicholas @Nichola67218038 · Mar 25
Replying to @Zoe51610873
I'm embarrassed to hear that
QunWenjing @WenjingQun · Mar 25
Replying to @Zoe51610873
hope more people know the truth
LingMiaoke @ling_miaoke · Mar 25
Replying to @Zoe51610873
a lie is always a lie

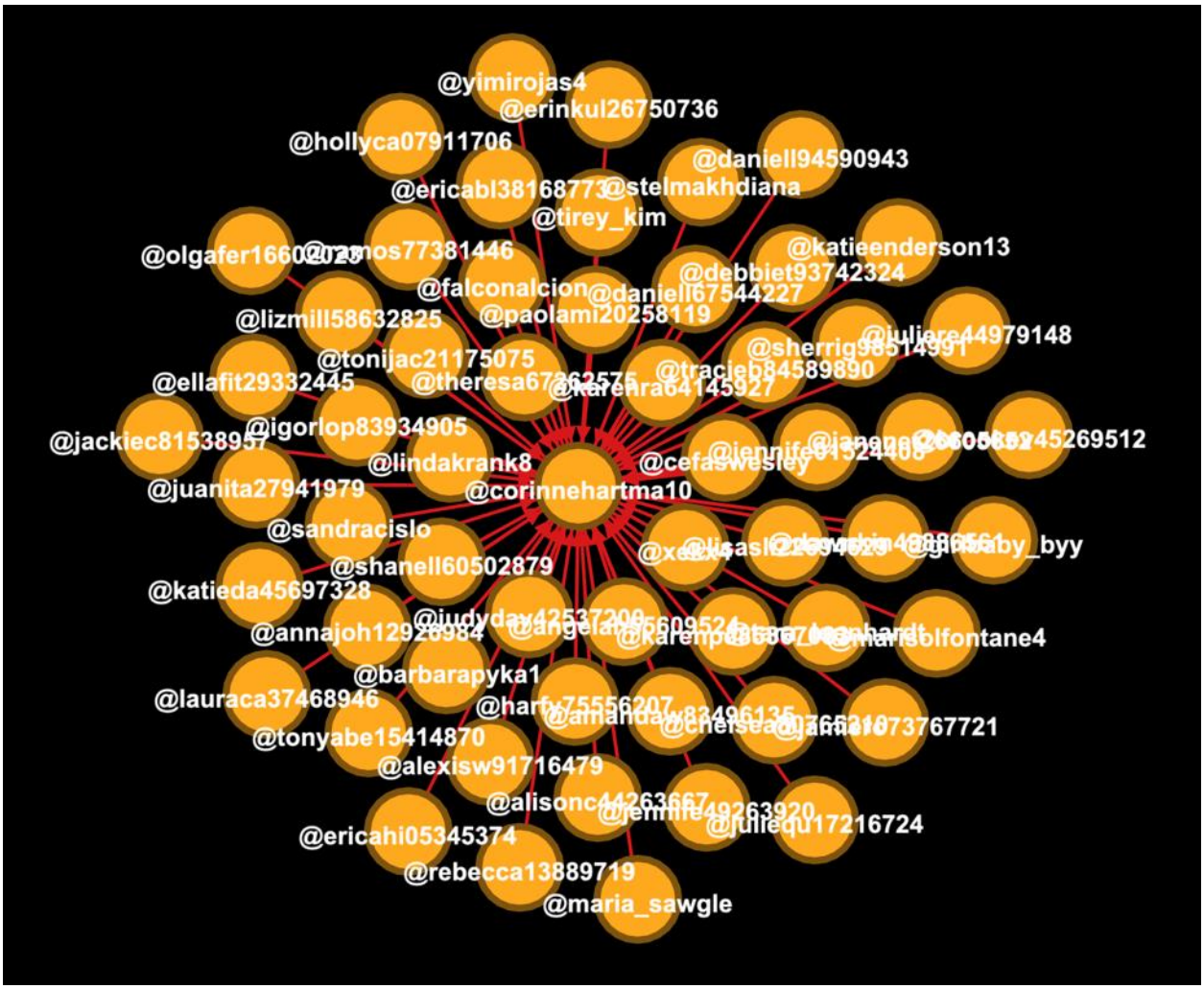
On a graph, this can be easily detected as seen below. There appeared to be only interactions with amplifiers in the campaign's network and did not appear to have any links with authentic users on Twitter posting about the hashtag or commenting on it. This is very indicative of a poster and amplifier cluster.

It should be noted that this does not mean that these accounts are 'bots', as they may be human users running the accounts. But it does show that this cluster had no links to other accounts posting about the same hashtag.

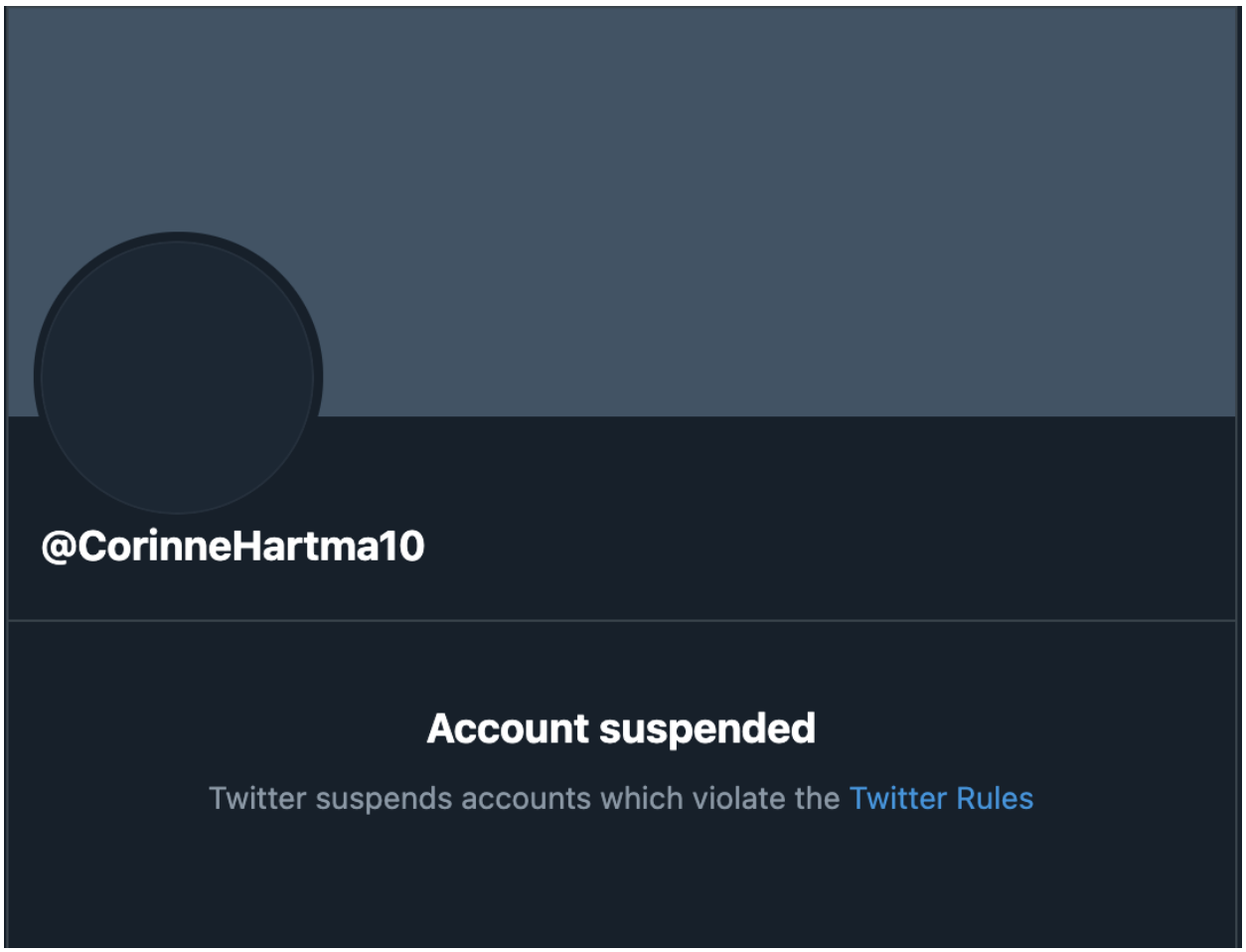


During the collection of Twitter accounts, some of the posters and their amplifier clusters appeared to be removed by Twitter. This was possibly due to automated indicators picked up by the platform.

For example, we can see account @corinnehartma10 and their corresponding amplification cluster below.

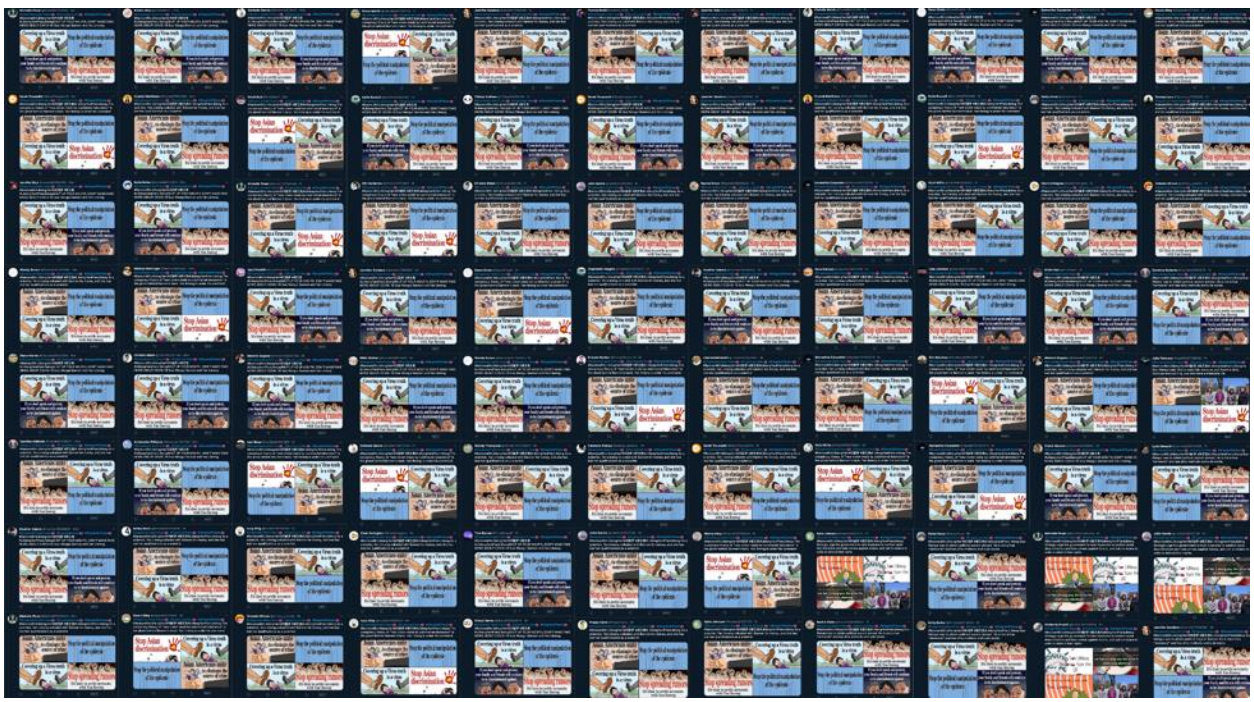


Subsequently, the account was suspended from the platform.



The amplification of some of the tweets in the network were simple to spot in the research. For example, some tweets gave a very inauthentic imbalance of comment, retweet and like ratios, as seen in the examples below from accounts @memory_017, @judeyow and @AdelitaAdelisa.

The research also found other tweets that were not liked or retweeted but were instead just spam tweets using the same text, tags and images. For example, in the graphic below tweets using the same tags, text and images were all seen uploaded in one day.



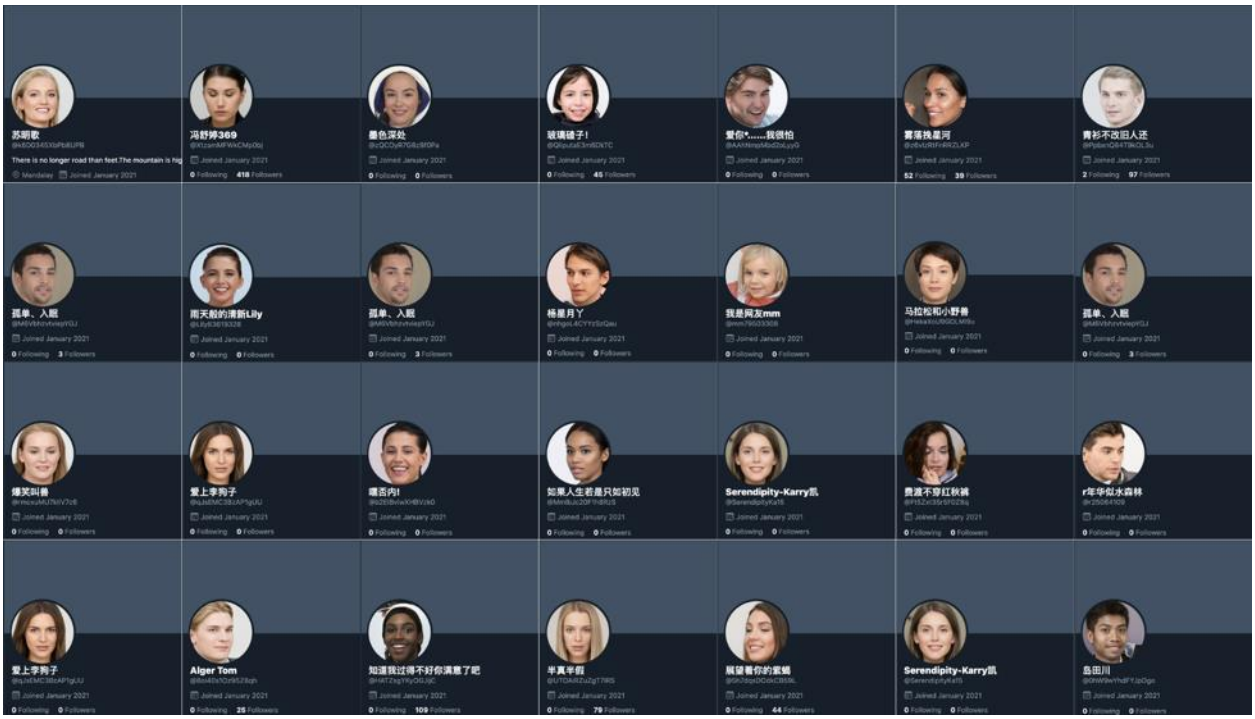
Throughout the research, we also identified a significant presence of StyleGAN images used as profile pictures within the networks.

StyleGAN, short for Style Generative Adversarial Networks, is a type of machine learning framework, where a technique trained on a dataset is able to generate new data with the same statistics as the dataset. For StyleGAN networks, the technique enables brand new faces to be created that don't exist in real life.

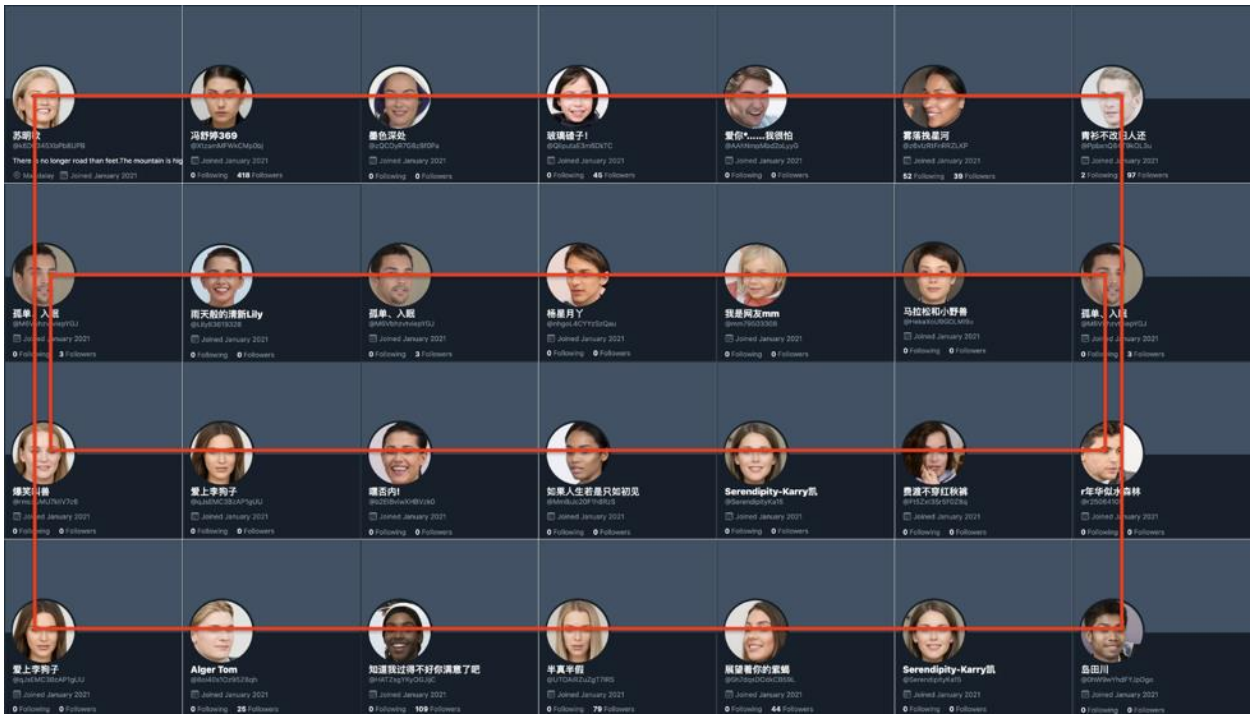
Reporting from the New York Times explained the use of these images and the ability for the public to buy 'fake people'. The website thispersondoesnotexist.com has also made StyleGAN faces more accessible to the public through a simple 'refresh for a new face' ability.

The use of these fake faces has been common in fake networks but have rarely been spotted in pro-China networks.

For the accounts using StyleGAN images in these networks, many of them were made in January 2021, specifically in batches at the same time.

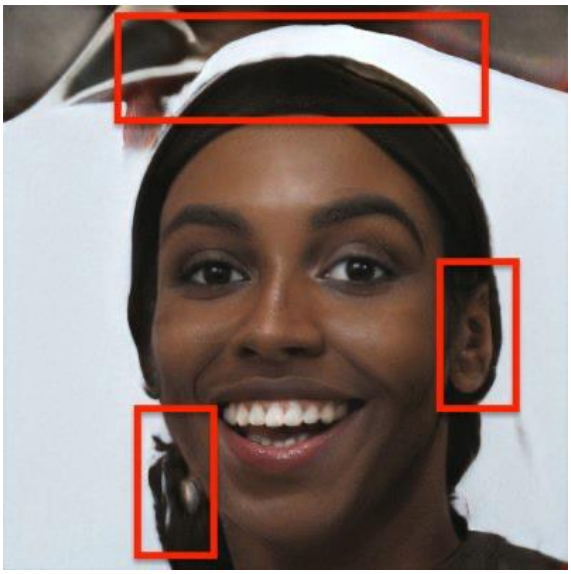


There are a number of techniques we can use to assess the legitimacy of these fake faces. Many of the assessments look at the structure of the eyes and their location. The StyleGAN images have the eyes in the same location in each image, so we can use the easy identification of the centrality of the StyleGAN faces, namely the eyes, as unique identification points.

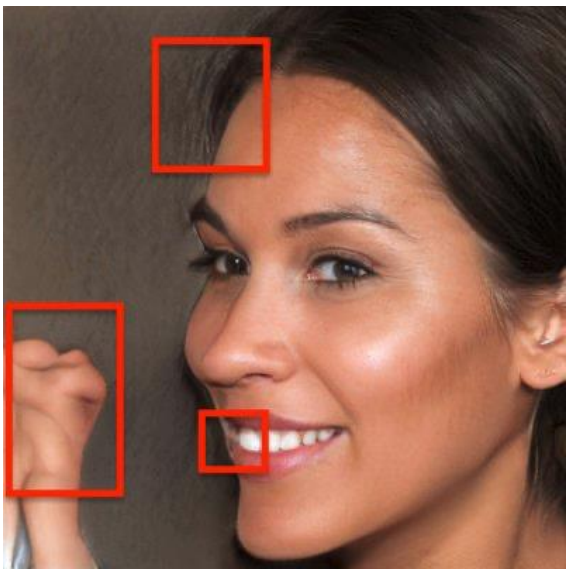


Due to the nature of GAN-based images, the 'blending' of the images often leaves blurred or mismatched parts of the face that a detailed look can identify.

For example, with account HATZ we can see the blurring around the ears and above the hairline where a background has blurred with the hair.



Account z6vl has differing features that, upon closer inspection, appear to reveal the GAN glitch. We can see those in the mismatched angle of the teeth, the hair that has been blended into the background and the hand in the left of the image that has been blurred with what is likely another image.

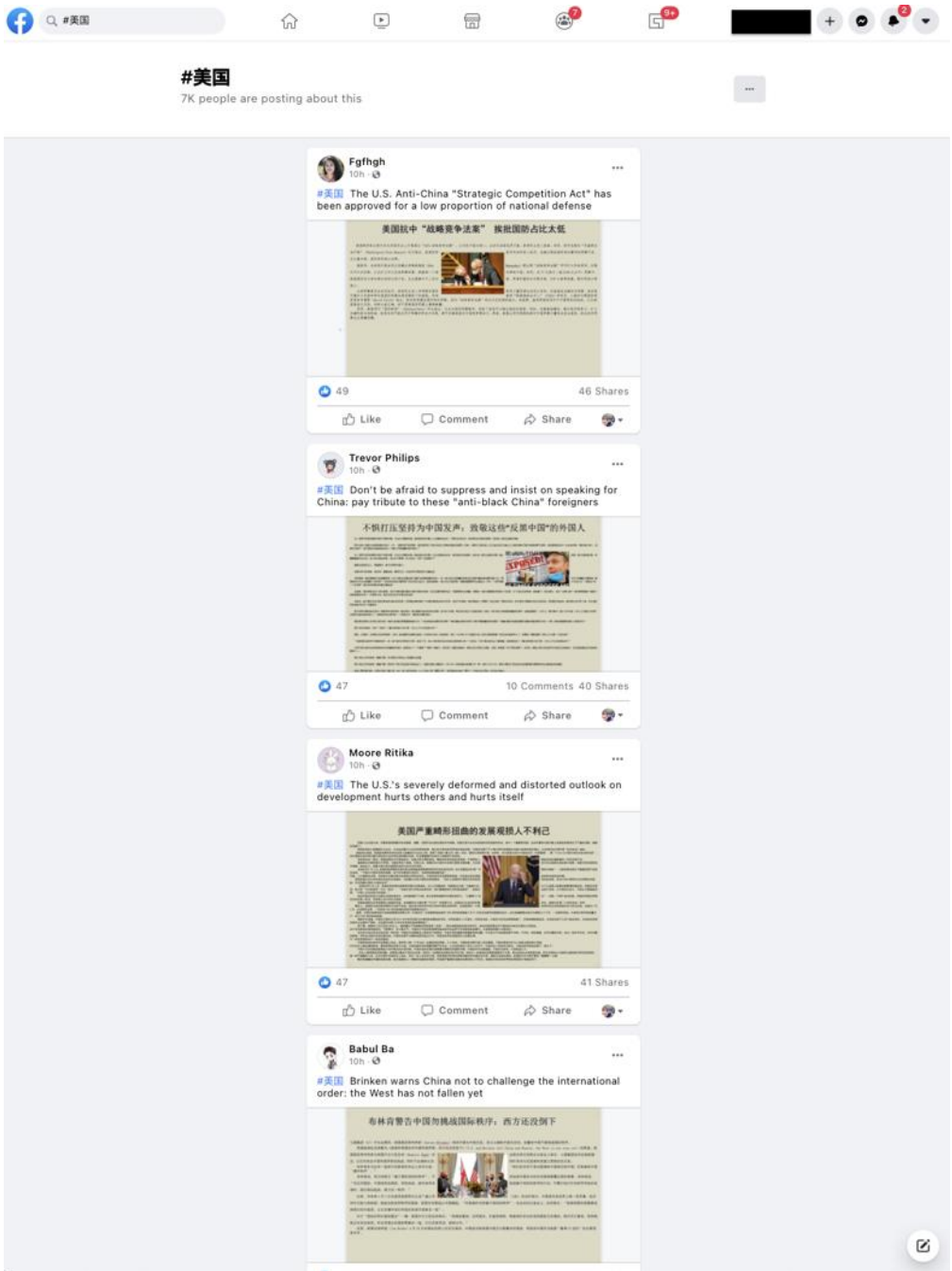


We can also see common creation dates during January 2021, namely on January 8 and January 25.

Facebook: Repurposed accounts and StyleGAN amplifiers

Our research on Facebook was conducted using the keywords of the narratives identified on Twitter and searching for that content on Facebook.

A sample of searching the tags that were identified on Twitter through the Facebook search can be seen below.



There were a number of cross-posted graphics and texts that were amplified by repeated networks of Facebook pages, new accounts and previously repurposed accounts.

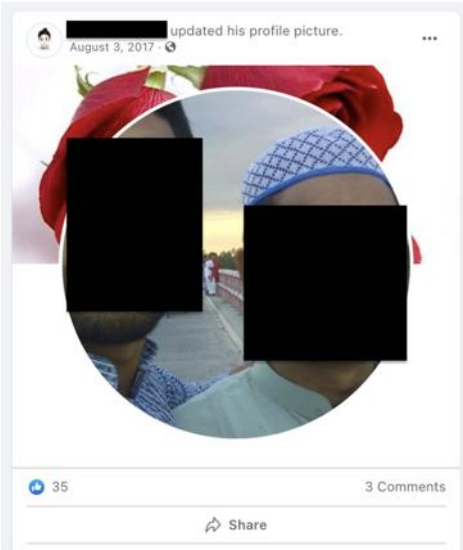
For example, the posts below from one account have traction from very similar users.

Comments can be tracked as seen below.

The main poster account seen above appears to have a past history as well, as the account has more than 1000 friends and has never communicated in Chinese prior to April 2021.

There was a significant gap in posting history of the account between April 2020–April 2021, where the change in political interests, and posting language appeared to change.

Some of the accounts showed signs they were owned by users from Bangladesh. This is similar to previous pro-China campaigns, as was noted by ASPI in a 2020 report.



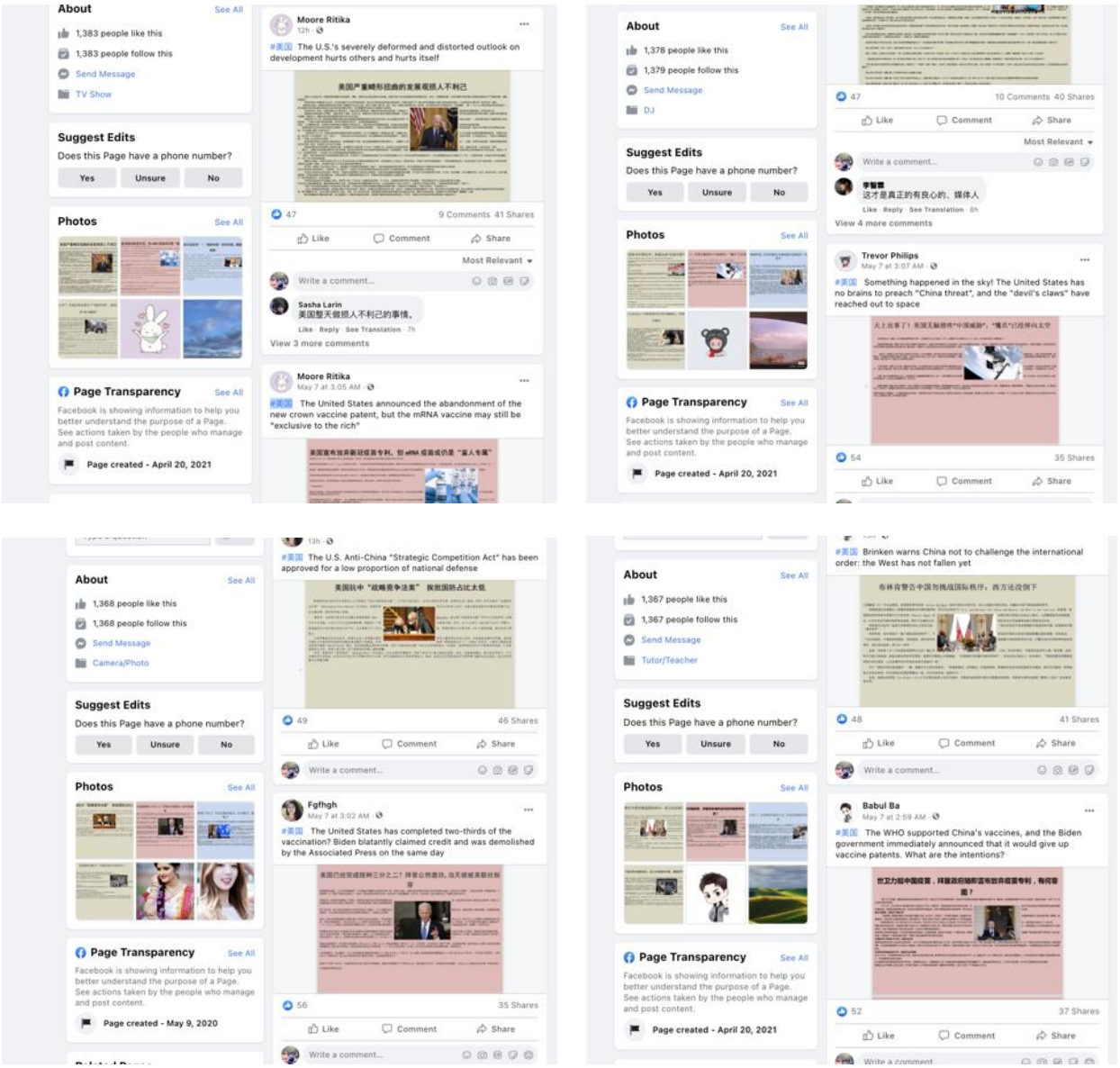
To get an understanding of the size of the network, the research looked at a number of the posts and how many accounts were amplifying the content in the campaign, as it appeared much of it was cross-posting and amplifying the content within the network, much like the tactic of the clusters on Twitter.

Publicly available metrics on Facebook of amplification of likes, comments and shares give a possible indication as to the number of accounts amplifying the content.

In consideration of the metrics of shares and likes, we estimate this cluster to be within the range of 40-55 accounts, however there may be more accounts not publicly searchable that a platform might have access to, or some accounts may be dormant in the network and not active.

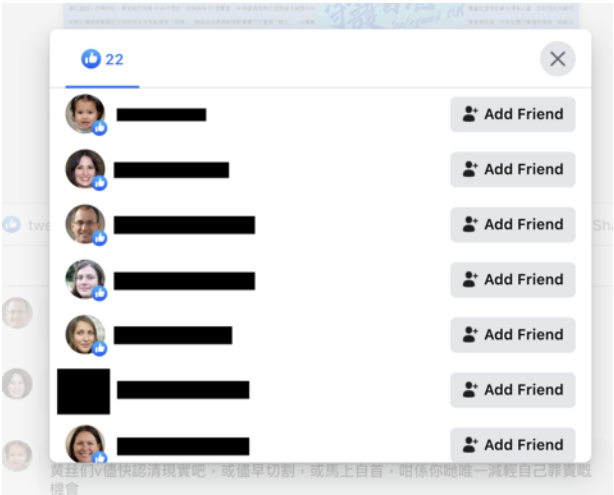
The Facebook pages identified as sharing the same, and similar content, appeared to have very similar creation dates ranging in either late April, or early May. This is also similar to when some of the Facebook accounts changed in their communication language and content.

For the Facebook page creation dates, we can view the 'page transparency' feature of each page, seen below.



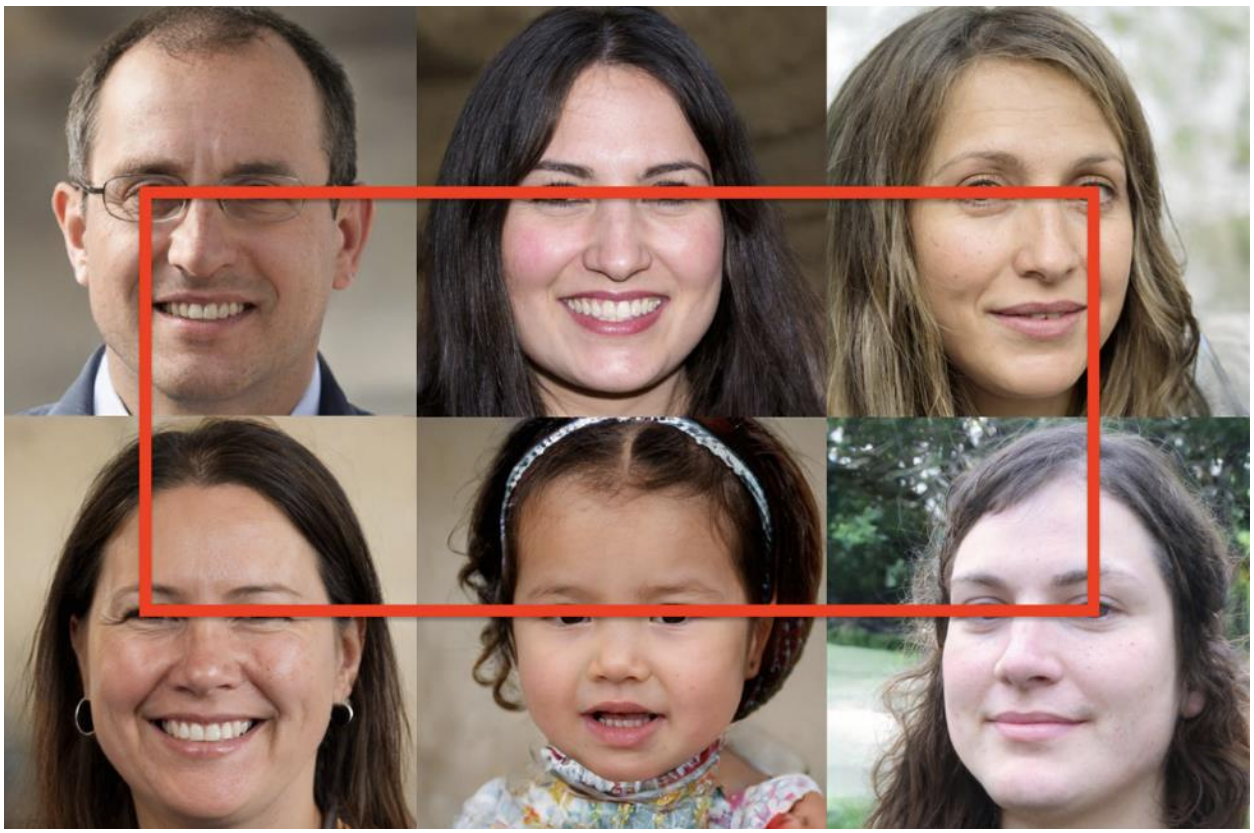
Our research also uncovered the use of StyleGAN images used as profile images of some of the amplification accounts. On Facebook, the majority of those accounts were commenting on the posts. The accounts that used StyleGAN images had account names akin to that of Turkish origin, and some appeared to have authentic user friends based in Turkey, which might also indicate that these accounts have been repurposed with a new profile image.

Those accounts identified above were used to comment on, like and share posts. Below is an example of the comments and the likes of one post.



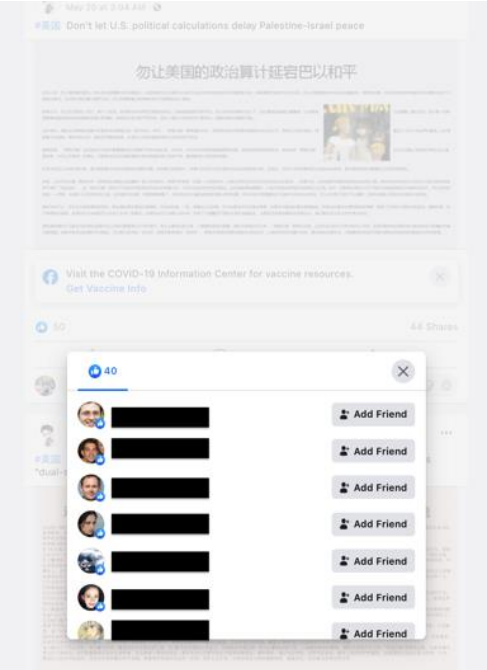
Those images can be tiled as follows.

And then assessed for centrality of the eyes as seen below.



The accounts using StyleGAN images with Turkish names on Facebook appear to have a more rigorous selection process for their profile images, as we were unable to identify many images with obvious flaws. This may indicate that these specific accounts are part of a paid-for network to purchase likes.

Upon closer inspection, a more detailed analysis of one of these accounts shows there are still minor flaws in the images.



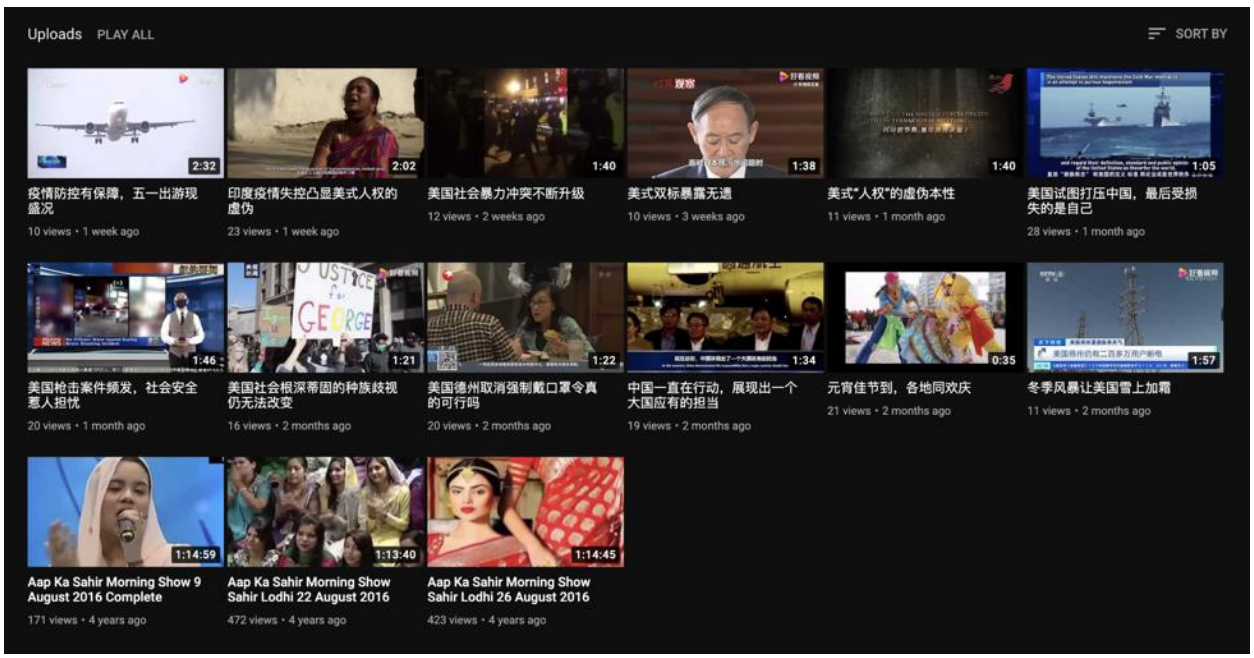
In this specific case of the account above, the image has failed to blend the glasses correctly to the face, instead the wiring of the glasses has a 'blurred' or faded effect in the face.

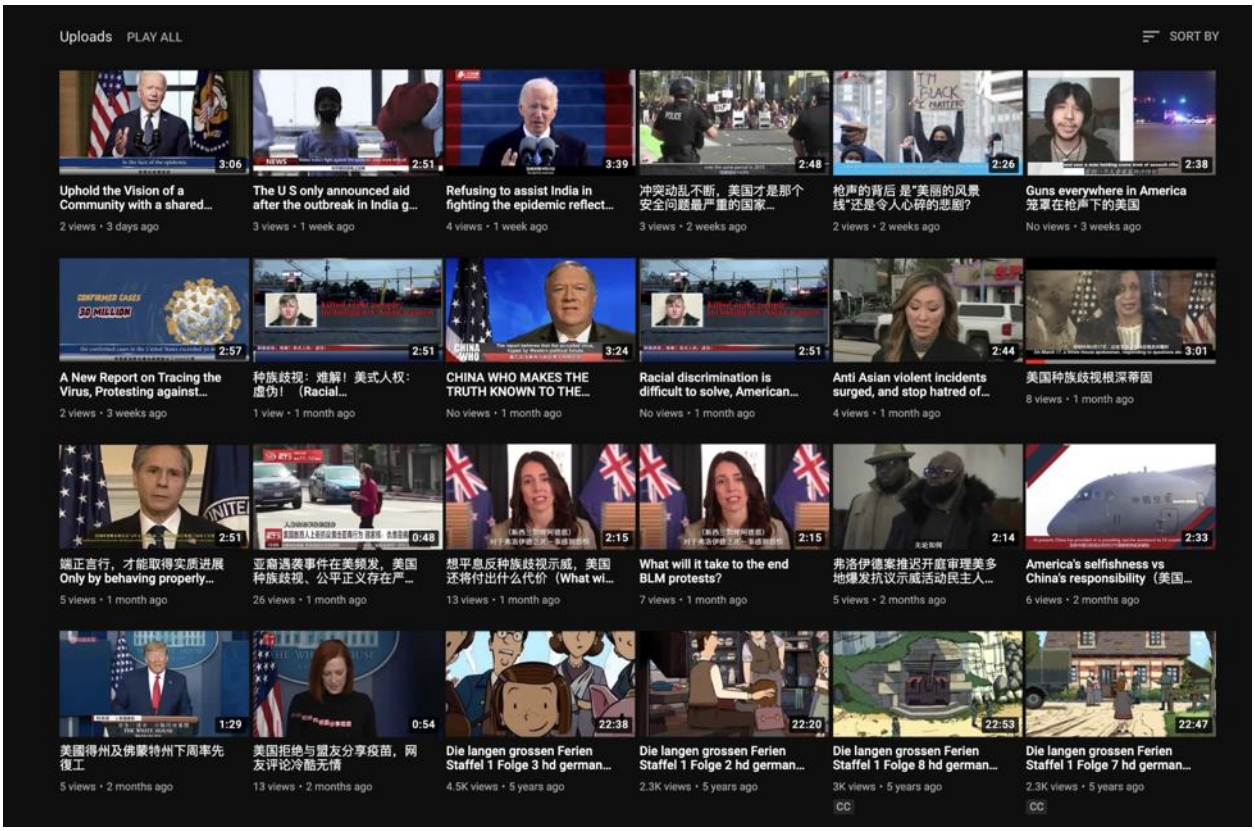
YouTube: Cross-posting of narratives through repurposed accounts

Content was less significant on YouTube than Twitter or Facebook. This might be due to the limitation in video communication and the en-masse appeal of conducting text and image-based information operations.

Of the accounts we did identify, there appeared to be signs of repurposed accounts, where previous users had uploaded videos, then years passed, and then at once, numerous pro-China propaganda videos were uploaded.

For example, in the screenshots below of different accounts, we can see there were videos posted in the past in one language, then years pass without activity before a new wave of pro-government video uploads occurred, this time in Chinese.

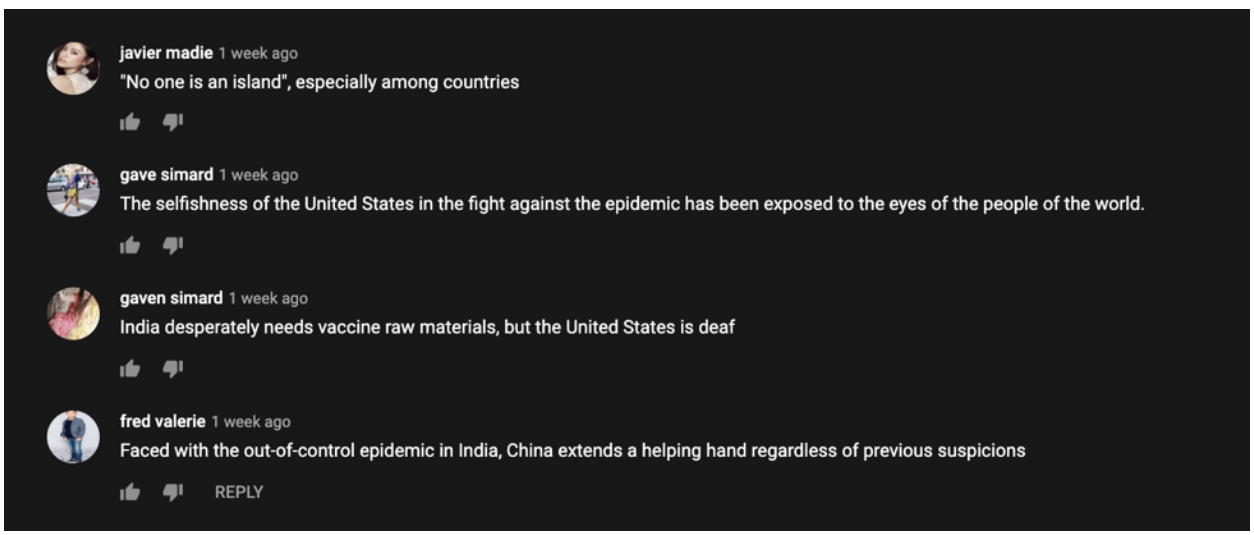




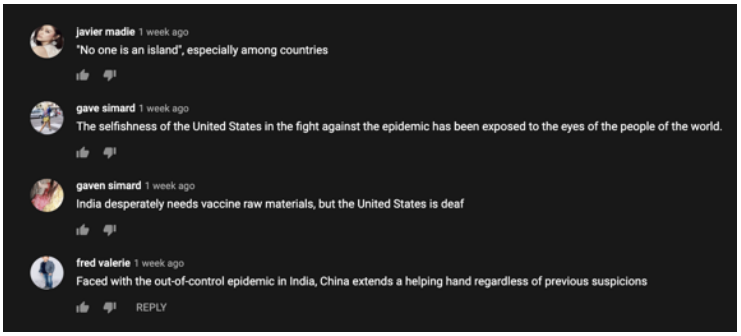
The narratives of the videos remained consistent with the network's common themes (covered in the following section) and used contrasting stories to sow doubt and discredit opponents, such as the US. The sharing of these narratives through graphic video content on YouTube is very similar to previous reports on pro-China propaganda networks reported on by Graphika and ASPI.

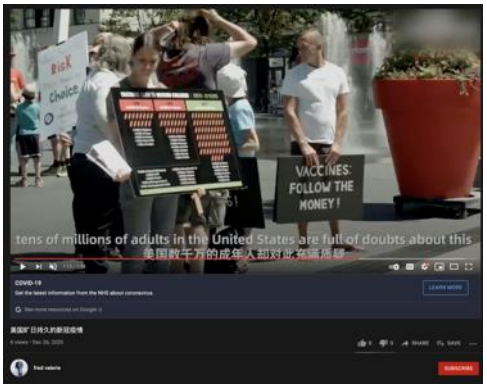
In one video, for example, the situation in India was used as a contrast to the US, where it is alleged in the video that there is a dire need for vaccines in India, yet factories in the US allow them to expire.

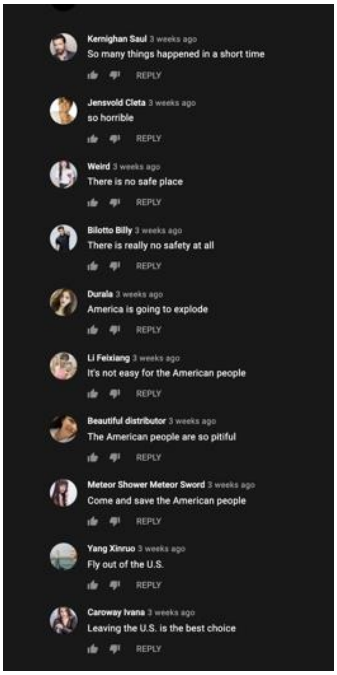
Another product of YouTube used to convey and amplify narratives is the comments section under the videos. This research identified comments were very consistent with the narrative lines and were an extra outlet for amplification by anonymous or fake accounts. For example, in the video above, the comments can be seen below.

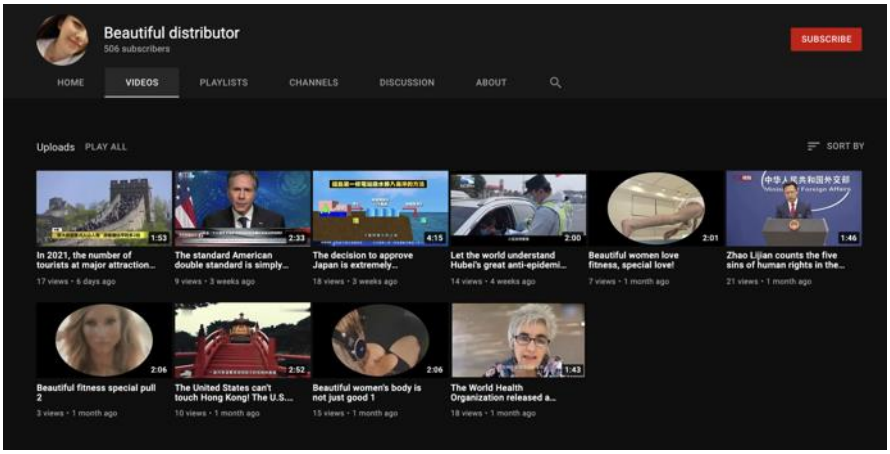


Some of those 'commenter' accounts also had videos uploaded through their accounts as well, indicating that YouTube accounts act as content sharers as well as amplifiers. In the screenshots below we can see commenters 'fred valerie' and '美丽的分销客 also had video content.



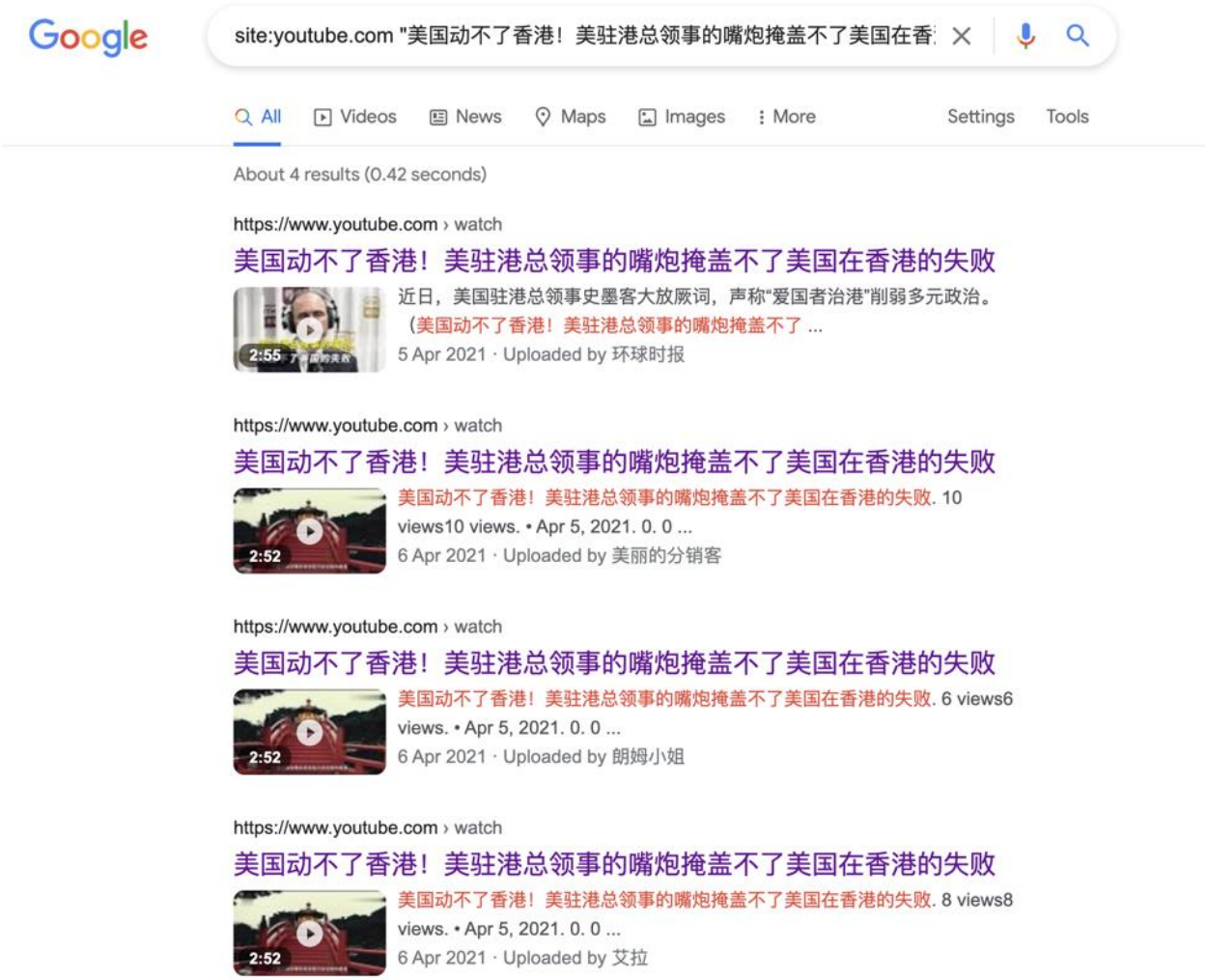






It appeared the media was frequently cross-posted across accounts and conducting a simple site-specific search for the video title identified some of the posters using the same titles.

For example, the search below was performed using the title "美国动不了香港！美驻港总领事的嘴炮掩盖不了美国在香港的失败" ("The United States can't touch Hong Kong! The U.S. Consul General's lip service cannot conceal the failure of the U.S. in Hong Kong").



While those same videos were one indicator, the other was the comments underneath them, which appeared to be, more often than not, the same accounts cross-commenting on each post.

In a more metric-based analysis, across the board of accounts we were able to identify similar patterns where each video would have between 10-12 comments on average (if they had any comments at all).

For example, the data of the following three channels can be seen here:

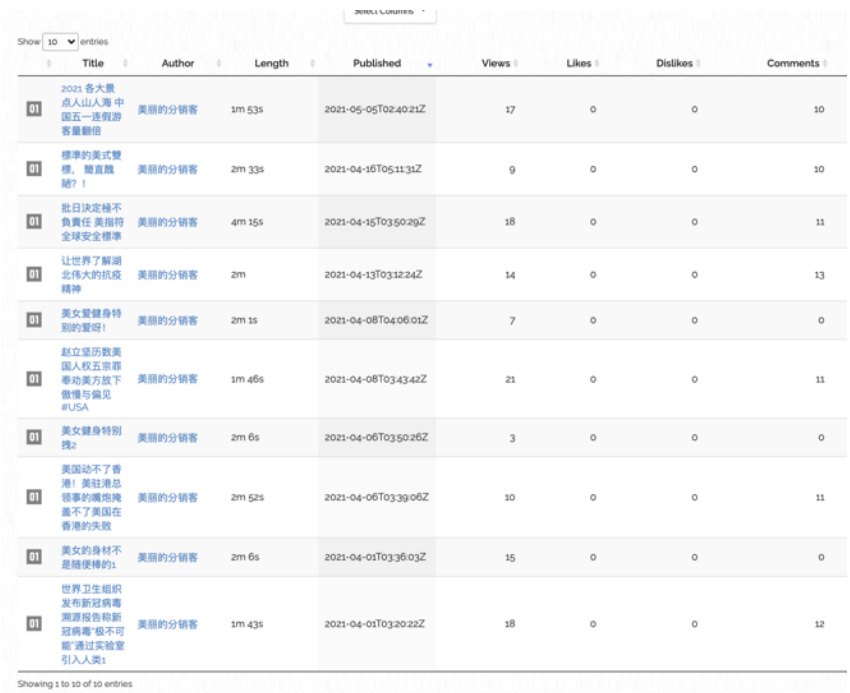
- https://mattw.io/youtube-metadata/bulk?submit=true&url=https://www.youtube.com/channel/UCHIT4P-MFKqfFId6L_JcQ3Q
- https://mattw.io/youtube-metadata/bulk?submit=true&url=https://www.youtube.com/channel/UCC6cVrLTG4qoP8pqXnSzlNQ
- https://mattw.io/youtube-metadata/bulk?submit=true&url=https://www.youtube.com/channel/UCTs_SjlzOHsWLkFV9WCh-qA

Below are the screenshots of that metadata.

Show 10 entries

	Title	Author	Length	Published	Views	Likes	Dislikes	Comments
01	放下嫌隙，合作共赢！	孙文敏	2m 27s	2021-05-11T03:57:10Z	16	0	0	10
01	中国外交天团维护国家权威，扬我大国风范	孙文敏	3m 47s	2021-05-07T07:10:44Z	15	0	0	11
01	盟友疫情崩溃之际，"疫苗分享"继续让位"美国优先"？	孙文敏	2m 57s	2021-04-29T03:44:11Z	19	0	0	11
01	印度疫情失控，美国白宫迫于舆论压力发表声明将向印度提供医疗资源，美式民主人权真是虚伪	孙文敏	3m 27s	2021-04-27T03:53:39Z	14	1	0	11
01	事实胜于雄辩	孙文敏	2m 32s	2021-04-25T04:48:33Z	15	0	0	12
01	佛洛伊德遭醒狮致死案 美警官谋杀罪成立	孙文敏	2m 21s	2021-04-22T04:42:48Z	10	0	0	10
01	美国拉响红色警报！暴力示威活动在美"炸开"？做好最坏打算	孙文敏	2m 28s	2021-04-20T06:08:14Z	15	0	0	10
01	仓库枪案致8人死亡后	孙文敏	1m 43s	2021-04-18T02:33:36Z	23	0	0	11
01	日本放毒 美国双标癌复发	孙文敏	3m 10s	2021-04-16T04:10:06Z	11	0	0	10
01	日本不负责任 美国应保持公正	孙文敏	1m 57s	2021-04-15T03:54:54Z	17	0	0	12

Showing 1 to 10 of 13 entries



Show 10 entries

	Title	Author	Length	Published	Views	Likes	Dislikes	Comments
01	2021 各大景点人山人海 中国五一连假游客量翻倍	美丽的分销客	1m 53s	2021-05-05T02:40:21Z	17	0	0	10
01	標準的美式雙標，雙直醜陋？！	美丽的分销客	2m 33s	2021-04-16T05:11:31Z	9	0	0	10
01	批日決定極不負責任 美指符全球安全標準	美丽的分销客	4m 15s	2021-04-15T03:50:29Z	18	0	0	11
01	让世界了解湖北伟大的抗疫精神	美丽的分销客	2m	2021-04-13T03:12:24Z	14	0	0	13
01	美女爱健身特别的爱呀！	美丽的分销客	2m 1s	2021-04-08T04:06:01Z	7	0	0	0
01	赵立坚历数美国人权五宗罪 奉劝美方放下傲慢与偏见 #USA	美丽的分销客	1m 46s	2021-04-08T03:43:42Z	21	0	0	11
01	美女健身特别拽2	美丽的分销客	2m 6s	2021-04-06T03:50:26Z	3	0	0	0
01	美国动不了香港！美驻港总领事的嘴炮掩盖不了美国在香港的失败	美丽的分销客	2m 52s	2021-04-06T03:39:06Z	10	0	0	11
01	美女的身材不是随便棒的1	美丽的分销客	2m 6s	2021-04-01T03:36:03Z	15	0	0	0
01	世界卫生组织发布新冠病毒溯源报告称新冠病毒"极不可能"通过实验室引入人类1	美丽的分销客	1m 43s	2021-04-01T03:20:22Z	18	0	0	12

Showing 1 to 10 of 10 entries

It should be noted that the impact of these videos was very limited, and for most channels in their entirety, on average they had less than 200 views per channel.

Part two: Narratives tell a consistent theme

Our research identified a number of narratives currently being promoted by the network. Some of the narratives have been identified in prior research on pro-China propaganda campaigns, whereas others are new to this network.

This research piece does not intend to fact check or disprove the claims, but rather identify the narratives, which were used to discover and research alternative narratives as seen in this report. The focus of this reporting is on the pro-China propaganda networks.

By identifying these narratives, this report does not wish to discredit, delegitimise, or undermine the serious issues they represent.

The list of topics the network seeks to influence through its various information tactics are as follows:

- US and COVID-19
- US claims about Xinjiang and human rights
- US and gun laws
- US and discrimination
- US and India COVID-19
- Dr Li-Meng Yan
- Guo Wengui
- Hong Kong democratic movement
- US and China relations
- US and global conflict
- US and violence

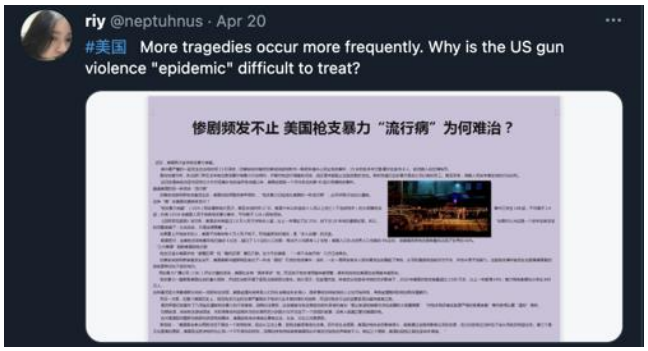
Documentation of those narratives and how they are promoted are explored below.

US and gun laws

The network sought to amplify the subject of gun violence in the US with any reporting on the issue being transferred into meme format and fed out through the network under the hashtag #美国 (United States).

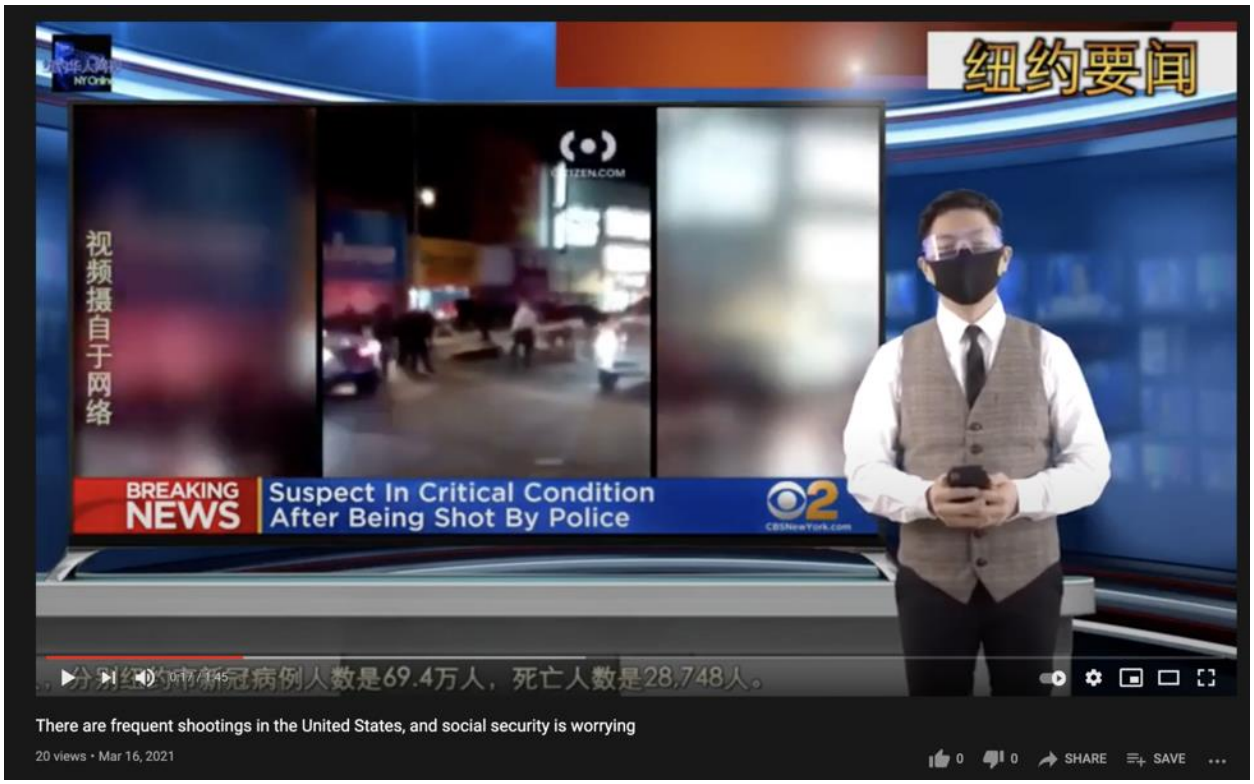
The CCP has previously criticised the US for high rates of gun violence. In the past, the CCP had promoted the narrative that the US was hypocritical in its condemnation of others, while failing to address domestic issues such as gun violence. This narrative has been uncovered in reporting by the New York Times, in its reference to a publication by the Global Times in 2018.

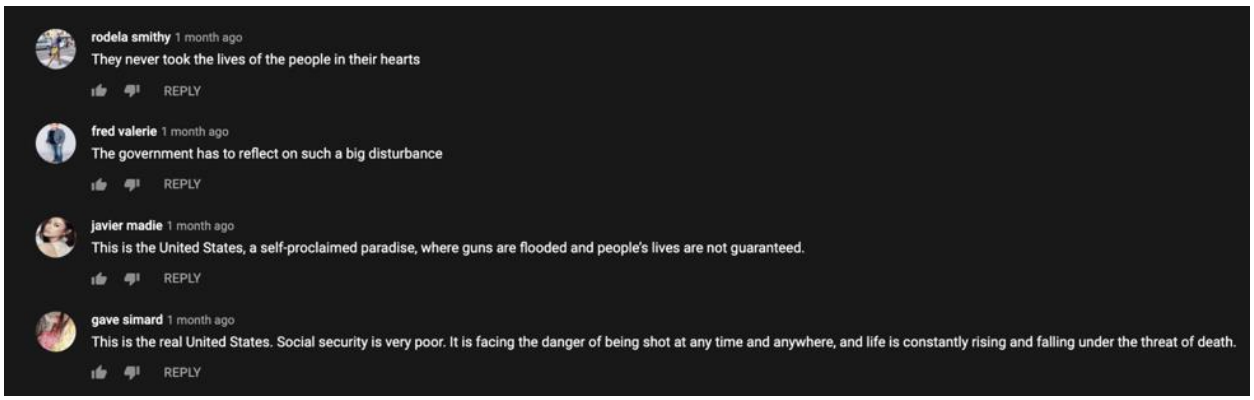
The same narrative has been echoed on social media with the amplification by accounts in the network through commentary posts on gun violence in response to specific events.



One of the accounts identified on YouTube as posting videos using the same narratives as seen echoed by the networks on Twitter and Facebook also uploaded a video on the frequent shootings in the US, using media clippings and footage with narration of those events.

In the comments section (pictured below – auto translated) were comments about the government, social security and general civilian safety.





The targeting of the subject of gun violence in the US has also been echoed by public figures such as from China state-affiliated media Editor-in-Chief, who used gun violence and COVID-19 in the US as a way to discredit US claims about human rights issues in Xinjiang.

US claims about Xinjiang and human rights

There has been [significant documentation] on the alleged human rights abuses in China's Xinjiang area and the oppression of Uyghurs. Posts in the network amplify claims of 'fabricated' evidence of the human rights abuses in Xinjiang.

This denialist content has also been echoed by Chinese Government representatives and China-linked media.

For example, Chinese Ministry of Foreign Affairs Information Department spokesperson Lijian Zhao has regularly tweeted or retweeted content that attempts to delegitimise the claims.

Very similar content is echoed from Editor-in-chief of the Global Times [Hu Xijin](#).

US and discrimination

A rising theme detected in the network's narratives targets racial discrimination in the US. One side of the narrative targets the issue of attacks on Asian ethnicities in the US, while the other continued to target the Black Lives Matter movement, using the movement to sow discord.

This is not the first time US and discrimination has been a target for pro-China influence networks, this has been previously documented by DFRLab, but China representatives have also called for the 'US government to take all necessary measures to deal with the violent law enforcement of police, so as to protect and safeguard the legitimate interests of racial minorities'.

Similarly, Zhao Lijian has also used social media to use the issue as a chance to take a swing at the US while defending the Chinese Government's stance on forced labour detention camps in Xinjiang.

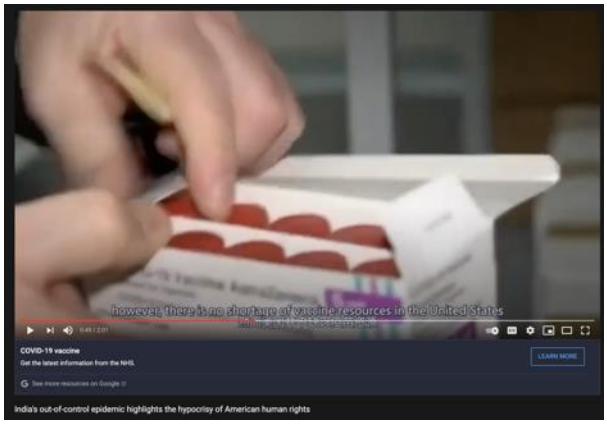
The narratives appear to focus on two subjects as of this year, the Black Lives Matter movement and issues of discrimination towards Asians.

US and India coronavirus

A narrative echoed throughout the networks targets the grim circumstances of COVID-19 in India and targets the response of the US.

The India-US COVID-19 narrative is summarised well in one YouTube video, titled 'India's out-of-control epidemic highlights the hypocrisy of American human rights', which follows the following lines of narrative:

- The US had an embargo on raw export materials outside of the US for vaccine production
- The US focused on itself and did not share vaccines
- Claims that large unused stockpiles were kept in factories
- And that China will provide support and help to India



Some of the network has promoted long-text memes on Twitter about India and coronavirus with negative sentiment towards the US. While some of the posts only target the issue, others target the issue and then promote China values much like what was seen in the YouTube video, as a way to discredit an opponent and raise one's own profile.

These same posts have been echoed on Facebook.

Guo Wengui

Numerous hashtags, namely #DrLiMengYan1, #YanLiMeng and #LiMengYan have been used by the network in a bid to discredit Chinese virologist Li-Meng Yan, after she published a report in September 2020, claiming China was responsible for the creation of coronavirus. The report's findings have been largely disputed.

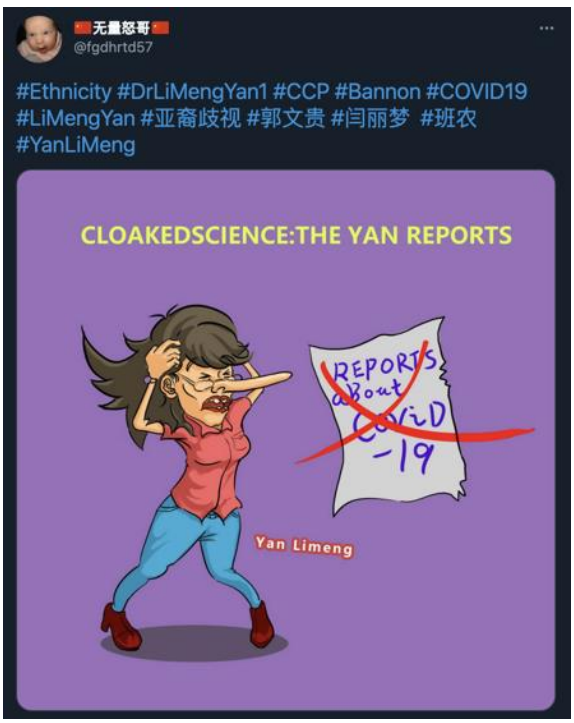
The targeting of Li-Meng Yan will also be individually covered in the next section.

Guo Wengui, also a target of the network, is a Chinese businessman and political activist. He is exiled from China and has been a critic of the Chinese government, and such, has been repeatedly targeted by pro-China propaganda. Previous examples of research documenting campaigns against him were identified by ASPI, Graphika and Bellingcat. It should be noted that while he has been the target of some of these campaigns, he has also been linked to information operations.

Both of these critics have been targeted by the network on their own, as well as posts linking them together. The network uses memes critical of them, as seen below.

linxin
@huanglinxin963
郭文貴和班農這兩人的政治目的十分險惡。在新冠疫情期間，利用"郭媒體"，炮製大量假資訊，還與班農等人策劃閆麗夢事件，借此來迎合美國政客的反華心理。但事實上，閆麗夢在香港做醫藥研究時，就已經和郭文貴在一起了，郭文貴先是利用錢把她騙上床，後是被抓住把柄，最後只能任由郭文貴擺佈。
Translate Tweet
DEVIL GAME TRUE LIES
Bannon
Yan Limeng
Guo Wengui

不停
@memory_017
#闫丽梦 "闫博士"才是最大的病毒
Translated from Chinese by Google
#闫丽梦"Dr. Yan" is the biggest virus
掩盖病毒事实真相
才是病毒
让闫丽梦受到相应的惩罚
2:21 AM · Apr 16, 2021 · Twitter Web App


无量怒哥
@fgdhrtd57
#Ethnicity #DrLiMengYan1 #CCP #Bannon #COVID19 #LiMengYan #亚裔歧视 #郭文贵 #闫丽梦 #班农 #YanLiMeng
CLOAKEDSCIENCE:THE YAN REPORTS
REPORTS about COVID-19
Yan Limeng

#Bannon#DrLiMengYan1#闫丽梦 #郭文贵#班农
#LiMengYan#COVID19#YanLiMeng#亚裔歧视#Ethnicity#CCP
Stop engaging in politics on the epidemic！
Stop the political manipulation of the epidemic
Stop the violence
Eliminate the root of evil
Eliminate the root of evil
Stop the violence
Yan limeng's report is pseudoscience
Focus on the health of the American people

In one of the posts, the research identified newer 'batches' of accounts promoting the same content and combining the hashtags relating to both Guo Wengui and Dr Li-Meng Yan.

As mentioned, the content analysed found propaganda from both pro-China as well as anti-CCP content from different networks.

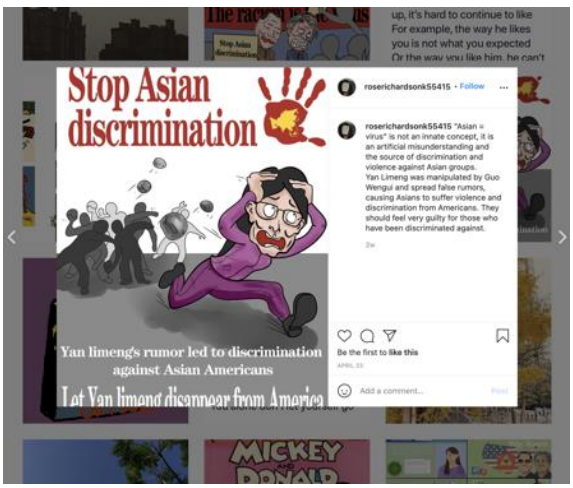
While this report does focus on the pro-China campaigns, there is indeed manipulation coming from both sides in an attempt to win over the narrative on specific hashtags. Reporting by Graphika goes into more detail on the anti-CCP network and coordinated activity.

The content shared by the pro-China accounts indicated the similar style of amplification by fake accounts as has been seen elsewhere in this report. This can be seen in the network analysis graph below of user @U5xzRTrtzrip2tq.

In the screenshot below, the traditional tactic of a throwaway account with few followers is used to spam a hashtag and is amplified by the surrounding network.

A screenshot of the post shows the 444 retweets and 37 likes the post received.

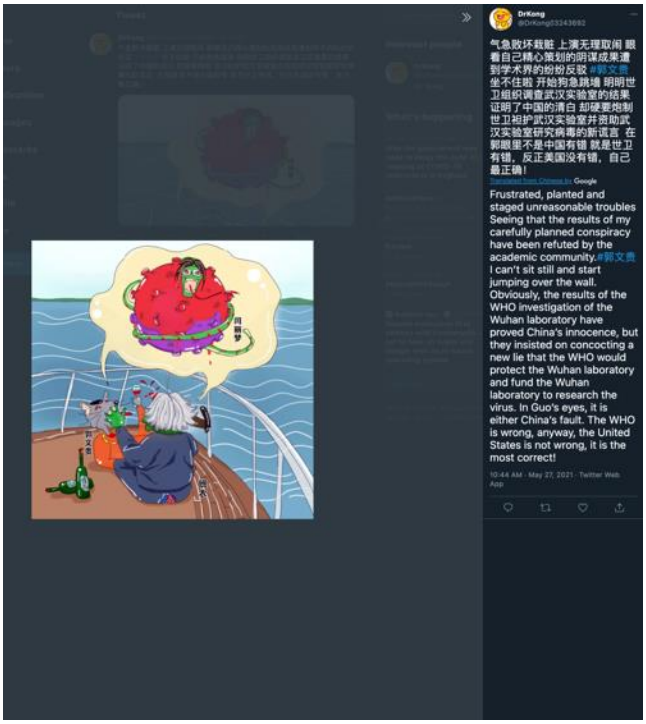
Similar posts targeting Dr Li-Meng Yan were also identified on Instagram, with less amplification than other platforms, seen below.

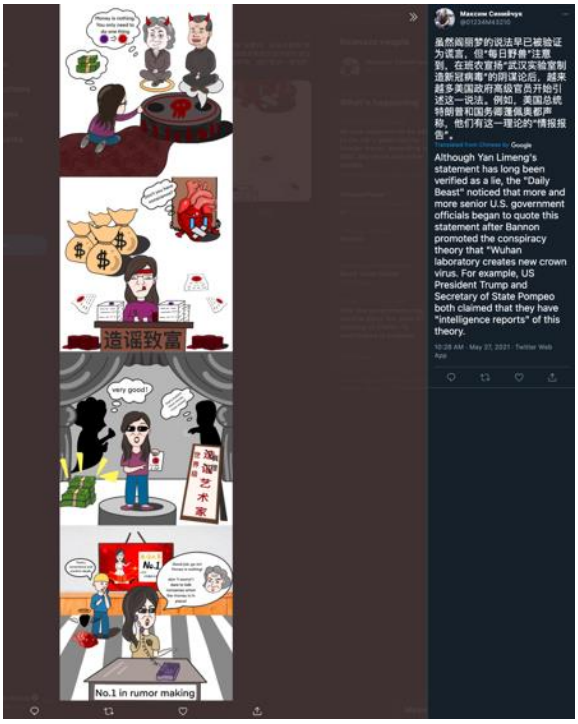


Li-Meng Yan and the Wuhan Lab report

Assertions by Chinese ophthalmologist and virologist Li-Meng Yan in a paper published in September 2020 claimed that China had created coronavirus in a lab in Wuhan. Peers in the research community claimed the paper was flawed and baseless, yet the claims still went viral and were spread on social media and news outlets.

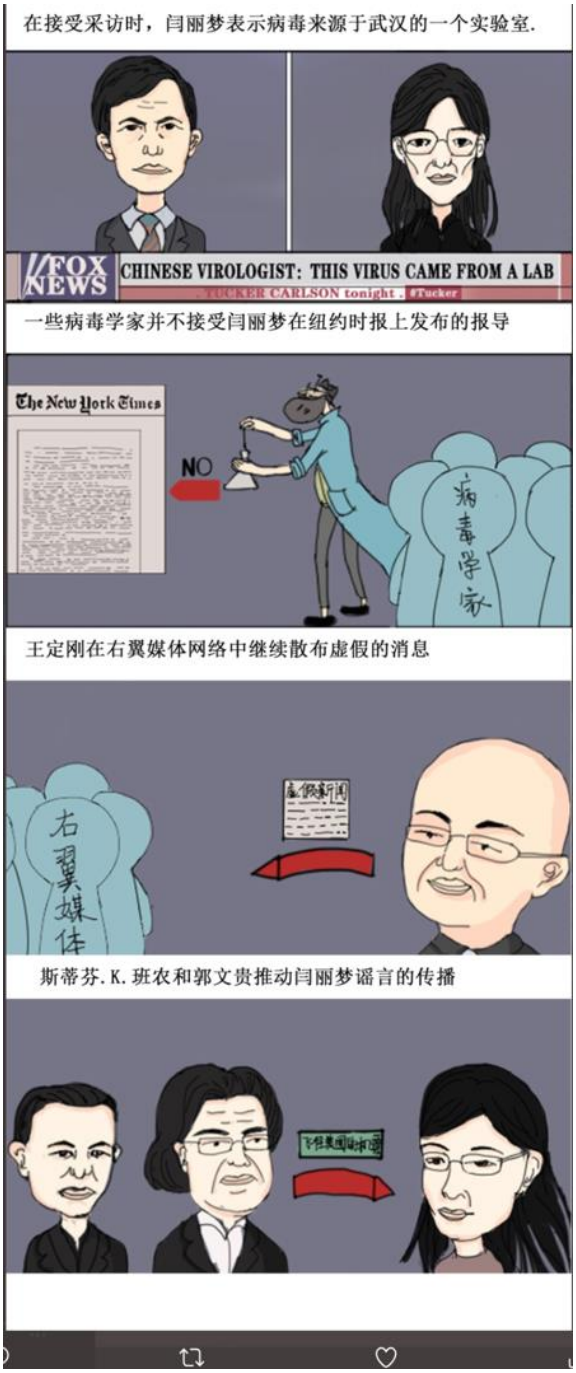
Pro-Chinese Government networks have responded to the claims as serious and have strategically used social media to discredit Li-Meng Yan and counter the claims of Wuhan lab coronavirus origins. Some of the posts refer to a claim made by the World Health Organisation that it was 'extremely unlikely' that the virus was leaked from a lab in China.





Since it has been identified that anti-CCP critics were running a social media influence operation, some of the posts in the network claim that Li-Meng Yan's research piece was promoted by Steve Bannon, the result of which the posts claim the research was quoted in US Government officials' reports and intelligence assessments (example above on the right).

More examples of this can be seen below.



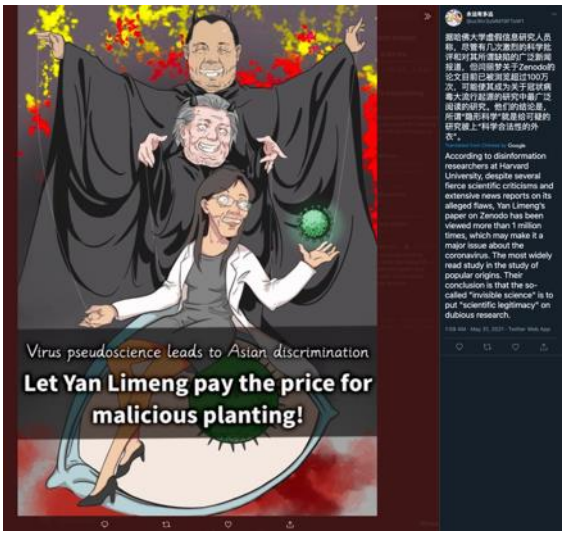
The same content has been used to promote the tag #Stopasianhate which is a narrative also targeted by Chinese Government representatives through social media in claims about the US and its ‘poor human rights’ track record. This is an argument used in retaliation for claims about China's treatment of Uyghurs in Xinjiang.

The posts of the content about Li-Meng Yan are in English and Chinese, indicating that the intended audience is mixed, and non-Chinese speaking audiences are intended as well as Chinese speaking.

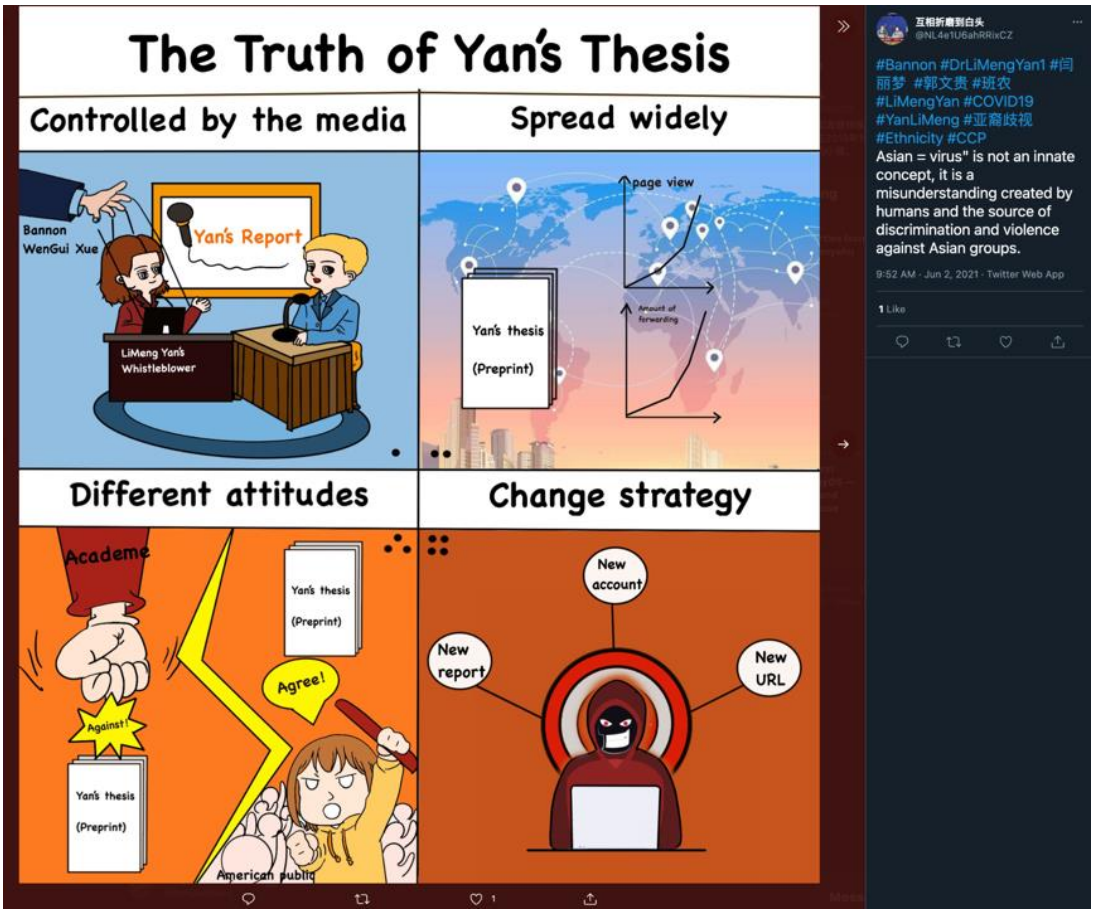
For example, the post below used translated graphics for both audiences.

The content also targets a much wider angle of sowing doubt within the US Government system by claiming a strategic advisor of the White House was the cause of the Wuhan Lab report. Seen in this tweet, and this one (below).

The research by Li-Meng Yan has also given the network the attack vector of targeting academic ‘standards’ in the west. Again, amplifying content to sow doubt across the industry of research groups.

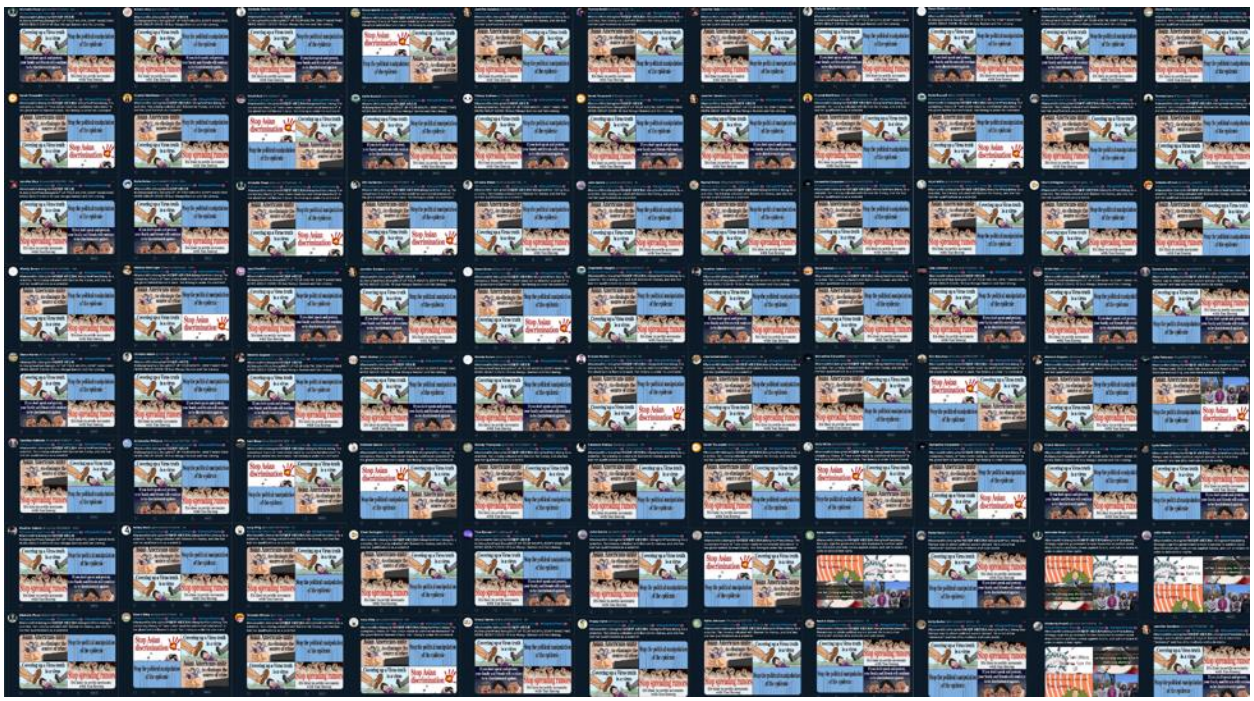


Many of these posts have been used with the tags #Bannon #DrLiMengYan1 #闫丽梦 #郭文贵 #班农 #LiMengYan #COVID19 #YanLiMeng #亚裔歧视 #Ethnicity #CCP. An example can be seen in this tweet.



While it appears much of the network fails to get significant traction through tweets, likes or comments, we can also identify clear signs of manipulation (which was also seen in other social media posts in this report) through what is likely fake retweets of some posts, such as these two posts below where each post has 200 (or just under) retweets.

While there is limited traction in many of the posts, the network uses repetitive spamming tactics using the same hashtags and memes, especially those targeting US narratives, as seen below.



Hong Kong democratic movement

Hong Kong's democratic protest movement has been a target in past pro-China propaganda campaigns. Hong Kong has been a regular target of the coordinated information pressure applied by pro-China propaganda networks, significantly more so during Hong Kong's pro-democratic protests.

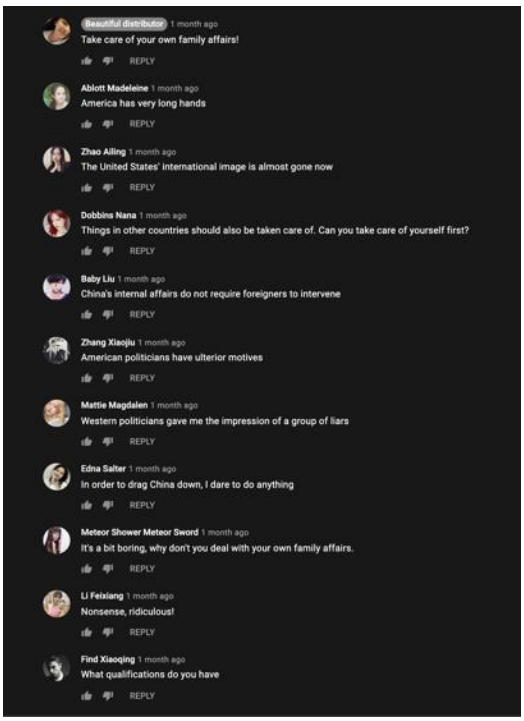
In 2020, Twitter announced a takedown of more than 150,000 accounts as part of a pro-China network. In 2019, Twitter also disclosed a takedown of a pro-China network. Both of those takedowns targeted the subject of Hong Kong with deceptive narratives, attempted to sow political discord and undermine the legitimacy of protest movements.

Those narratives have shifted in this network to amplifying content more supportive of Hong Kong and China relations and development.

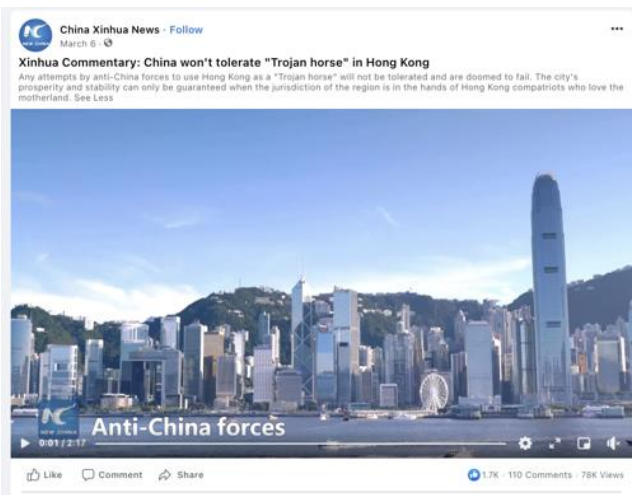
One of the YouTube accounts our research found that was sharing content extremely similar to that of the Twitter network, also referenced the attempt at US influence in Hong Kong.

The title of the video was "美国动不了香港！美驻港总领事的嘴炮掩盖不了美国在香港的失败", which gave the autotranslation of "The United States can't touch Hong Kong! The U.S. Consul General's lip service cannot conceal the failure of the U.S."

A number of the comments were fairly similar to the aggressive style of comments observed on other YouTube videos identified as sharing the same content.



The reference to US interference in Hong Kong has also been a narrative shared by Chinese Government representatives and state-linked media outlets, such as China Daily and China Xinhua News.

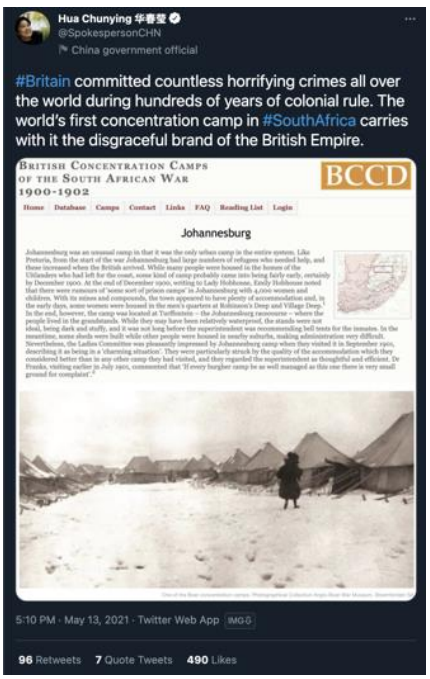


US and China relations

A number of posts amplified the subject of the outlook of the US and the 'rise of China'.

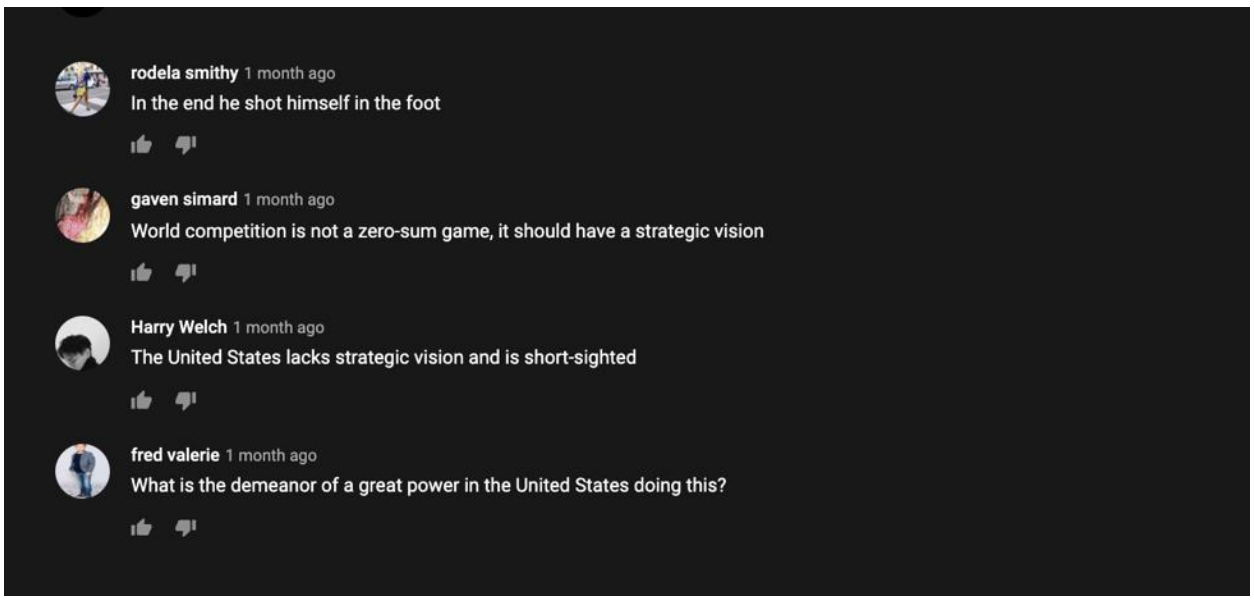
The network appears to identify trending issues where there may be an attempt to point out possible shortfalls or wrongdoing by the US Government and elevate the status of China.

This US-China rivalry isn't only seen in content shared by the inauthentic network, but also by Chinese state representatives' accounts. For example, we found very similar narratives shared by Chinese Government officials which indicate an overlap in the narratives shared by both legitimate accounts, as well as the inauthentic accounts observed in this report.



While much of the US-China rivalry amplified by pro-China propaganda networks focused on technology or competing industries, this network also targets COVID vaccine diplomacy and provisions. We noticed many posts targeting the US and COVID issue, such as the posts seen below.

This content was also echoed on YouTube through video and comments.



US and global conflict

We also identified a new narrative after US President Biden's announcement to withdraw troops from Afghanistan. The content used the US hashtag to spread its content. This may have also been an attempt to catch on to any potential trending status of the tag.

The content was posted just days after reporting started to circulate of Biden's notice to withdraw troops. In what appeared to be a new subsect of the campaign, the narrative was fed into the networks and amplified primarily on April 16 and 17.

adelita adelisa @AdelitaAdelisa · Apr 17
#美国 The U.S. media asked: What did the U.S. do in Afghanistan? The U.S. does not know
美媒反问：美国在阿富汗做了什么？美国自己也不知道

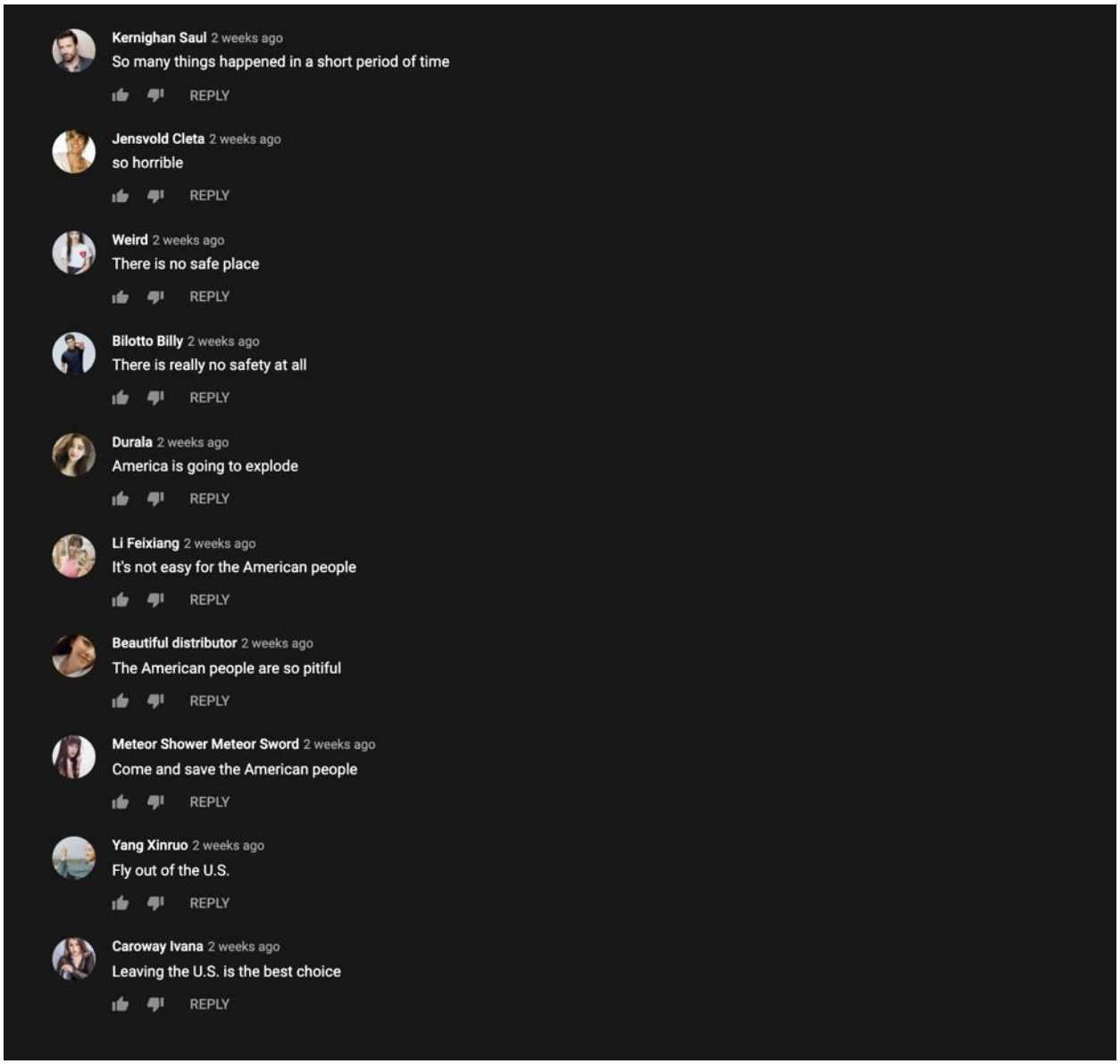
riy @neptuhnus · Apr 16
#美国 The United States announced its withdrawal from Afghanistan, and the goal of a unipolar world was officially declared bankrupt!
美国宣布从阿富汗撤军，单极世界的目标正式宣告破产！

US and violence

It is clear that an event such as the storming of the Capitol in Washington on January 6, 2021, would be a prime target for pro-China propaganda networks seeking to amplify content and sow discord in the public. Our research identified some of that content being shared through comments and posts on some of the platforms, as well as in videos and comments on YouTube.

Videos targeting issues of 'violent demonstrations' in the US are not new and have been a persistent theme throughout pro-China propaganda networks. In this video, with the title originally written in Chinese, it establishes a grim outlook for the US with more violent protests on the way.

Below the post are 10 comments with statements such as “It's not easy for the American people”, “Leaving the U.S. is the best choice” and “Come and save the American people”, further amplifying the messaging of the video. These comments are an attempt to drive legitimacy of the post.



Narrative summary

While the narratives target different subjects and deliver alternative types of posts, images and text to either amplify, discredit or shift a focus of an agenda, they all promote one overarching theme – which is to boost the profile of China and squash or discredit the west and any group that is critical of the Chinese Government.

The narratives are amplified by a coordinated influence operation on Twitter, Facebook and YouTube using a mix of fake and stolen accounts and distort perceptions on important issues. These narratives are closely in line with those being pushed by China-state representatives and state-linked media outlets.

About the Centre for Information Resilience

The Centre for Information Resilience (CIR) is an independent, non-profit social enterprise dedicated to identifying, countering and exposing influence operations.

The CIR, supported by an advisory board of experts, works to raise awareness among policymakers, journalists and the public of the risks posed by influence operations by hostile actors, including malign states and "domestic disinformers". Once identified, the CIR works with a global network of partners to counter these threats to democracy.

The CIR fulfils its mission through three strands – research and programmes, the Global Investigations Unit and our Resilience Network. We are a collaborative initiative; we work with partners including civil society, the media, grassroots organisations, academia and democratic governments to coordinate activities.

We believe the scale of the problem demands an ambitious, collective response.

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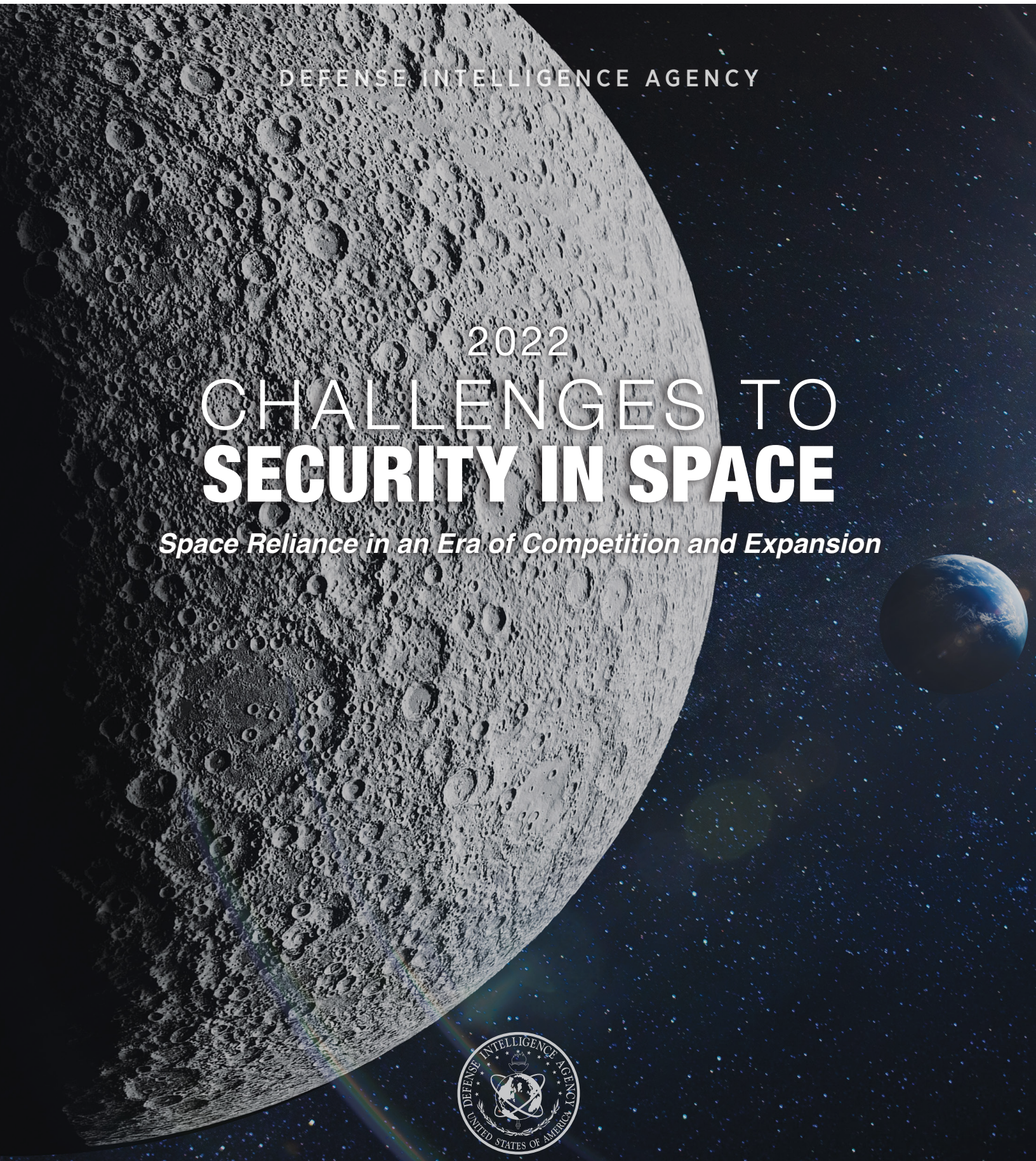

DEFENSE INTELLIGENCE AGENCY

2022

CHALLENGES TO SECURITY IN SPACE

Space Reliance in an Era of Competition and Expansion

Committed to Excellence in Defense of the Nation

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Information cutoff date, March 2022
DIA_E_00039_A

Cover image, Cislunar space domain viewed from beyond the far side of the Moon:
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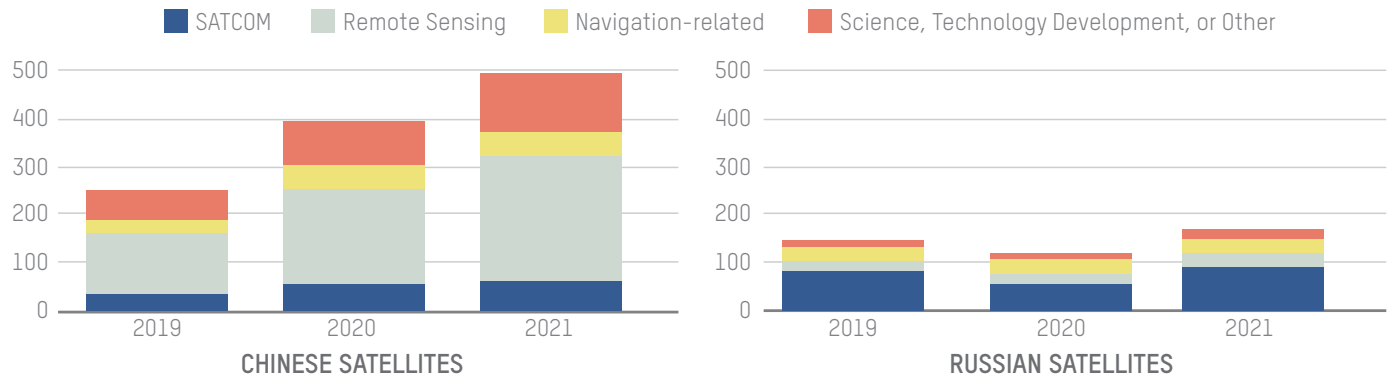
SCOPE NOTE

Challenges to Security in Space was first published in early 2019 to address the main threats to the array of U.S. space capabilities, and examine space and counterspace strategies and systems pursued primarily by China and Russia and, to a lesser extent, by North Korea and Iran. This second edition builds on that work and provides an updated, unclassified overview of the threats to U.S. space capabilities, particularly from China and Russia, as those threats continue to expand.

Growth of All Chinese and Russian Satellites In-Orbit, 2019–2021



End of year totals are represented for 2019 through 2021. China's and Russia's combined, in-orbit satellite fleets will continue to grow. *Source: Union of Concerned Scientists, 1 January 2022, Satellite Database.*

2110-30293

Between 2019 and 2021 the combined operational space fleets of China and Russia have grown by approximately 70 percent. This recent and continuing expansion follows a period of growth (2015–2018) where China and Russia had increased their combined satellite fleets by more than 200 percent. The drive to modernize and increase capabilities for both countries is reflected in nearly all major space categories—satellite communications (SATCOM), remote sensing, navigation-related, and science and technology demonstration.

Since early 2019, competitor space operations have also increased in pace and scope worldwide, China's and Russia's counterspace developments continue to mature, global space services proliferate, and orbital congestion has increased. As a result, DIA has published this new edition to:

- Expand its examination of competitor space situational awareness (SSA), and command and control (C2) capabilities;
- Detail the profiles of organizations operating space and counterspace systems based on new information;
- Deepen our characterization of new space and counterspace systems deployed and in development;
- Focus on China's and Russia's interests in exploring the Moon and Mars;
- Provide a new section on the use of space beyond Earth orbit and its implications;
- Widen our treatment on the threats posed to all nations' space operations from space debris.

EXECUTIVE SUMMARY

Space Reliance In An Era Of Competition And Expansion

Capabilities. Space-based capabilities impact many day-to-day aspects of the American way of life. These capabilities enable functions that affect our homes, transportation, electric power grids, banking systems, and our global communications. Satellites provide access to a broad range of information and enable many services in real time, from watching breaking news to monitoring our deployed armed forces around the world day or night. These and other benefits enabled by space systems are the result of more than 60 years of dedicated work by government agencies—military and civilian—supported by many commercial space providers. Space systems also enable the United States and our allies to project combat power to areas of conflict and instability and allow our armed forces to collect vital intelligence on foreign threats, to navigate and maneuver rapidly, and to communicate with each other anywhere around the globe to ensure our security and quick response to international military and humanitarian crises.

Competition. Space competition between the United States and the former Soviet Union began in earnest with Moscow's launch of the world's first artificial satellite, Sputnik-1, in 1957. China's emergence as a space power in the late 20th and early 21st century and Russia's post-Soviet resurgence have expanded the militarization of space as both countries integrate space and counterspace capabilities into their national and warfighting strategies to challenge the United States. Adversaries have observed more than 30 years of U.S. military operations supported by space systems and are now seeking ways to expand their own capabilities and deny the U.S. a space-enabled advantage.[1]

China and Russia, in particular, are developing various means to exploit the perceived U.S. reliance on space-based systems and challenge the U.S. position in the space domain.[2] Beijing and Moscow seek to position themselves as leading space powers, intent on creating new global space norms. Through the use of space and counterspace capabilities, they aspire to undercut U.S. global leadership. Iran and North Korea will continue to develop and operate electronic warfare (EW) capabilities to deny or degrade space-based communications and navigation.[3]

Proliferation. Space capabilities are increasing across a growing list of nations, including: missile warning, geolocation and tracking of friendly and adversary activities, target identification, and navigation services for their citizens and armed forces. Expanding constellations of remote-sensing satellites are reducing all countries' ability to conceal sensitive tests, evaluation activities, and military exercises and operations.[4, 5]

Space commercialization is also growing as companies augment or replace government-provided launch, communications, SSA, remote-sensing—also referred to intelligence, surveillance, and reconnaissance (ISR)— and human spaceflight services. These firms are opening access to space technologies, services, and products to government and nongovernment entities that can pay for their capabilities.[6,7,8] The growth of viable commercial space enterprises best represents how the use of space has expanded in scope, scale, and importance across the globe.

Counterspace. Space is being increasingly militarized. Some nations have developed, tested, and deployed various satellites and some counterspace weapons. China and Russia are developing new space systems to improve their military effectiveness and reduce any reliance on U.S. space systems such

as the Global Positioning System (GPS). Beijing and Moscow have also created separate space forces. As China's and Russia's space and counterspace capabilities increase, both nations are integrating space scenarios into their military exercises. They continue to develop, test, and proliferate sophisticated antisatellite (ASAT) weapons to hold U.S. and allied space assets at risk. At the same time, China and Russia are pursuing nonweaponization of space agreements in the United Nations.[9] Russia regularly expresses concern about space weapons and is pursuing legal, binding space arms control agreements to curb what it sees as U.S. strength in outer space.[10,11] The expansion of Chinese and Russian space and counterspace weapons combined with the general rise of other foreign space capabilities is driving many nations to formalize their space policies to better position themselves to secure the space domain and facilitate their own space services.[12,13,14,15,16,17,18,19,20,21,22,23,24,25]

Collisions. The probability of collisions of massive derelict objects in low Earth orbit (LEO) is growing and almost certainly will continue through at least 2030 because of rising numbers of space launches—especially those with multiple payloads—and continuing fragmentation from collisions, battery explosions, and further ASAT testing events.

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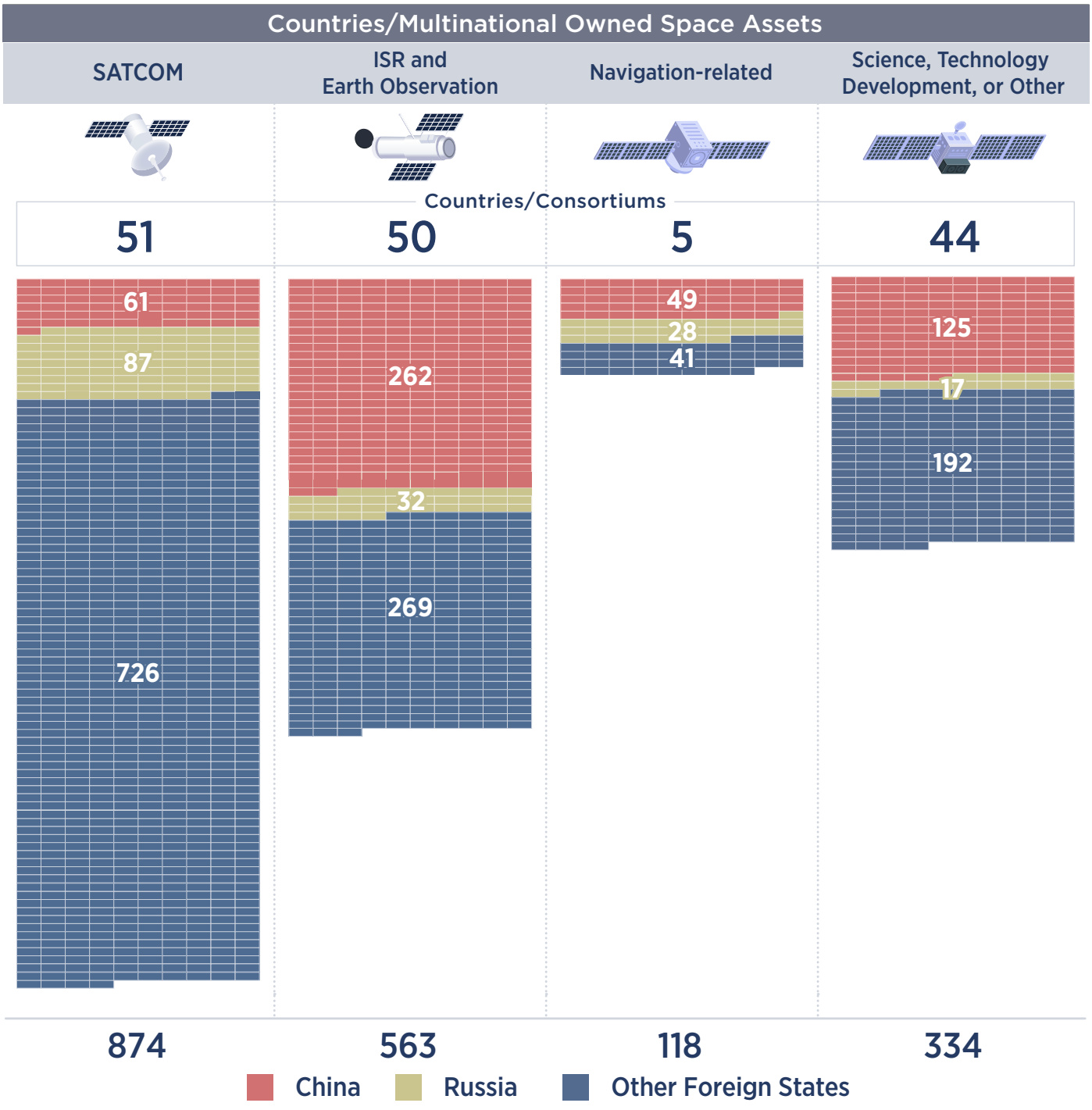
Active Foreign Satellites



Source: Union of Concerned Scientists, 1 January 2022, Satellite Database

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SPACE CAPABILITIES

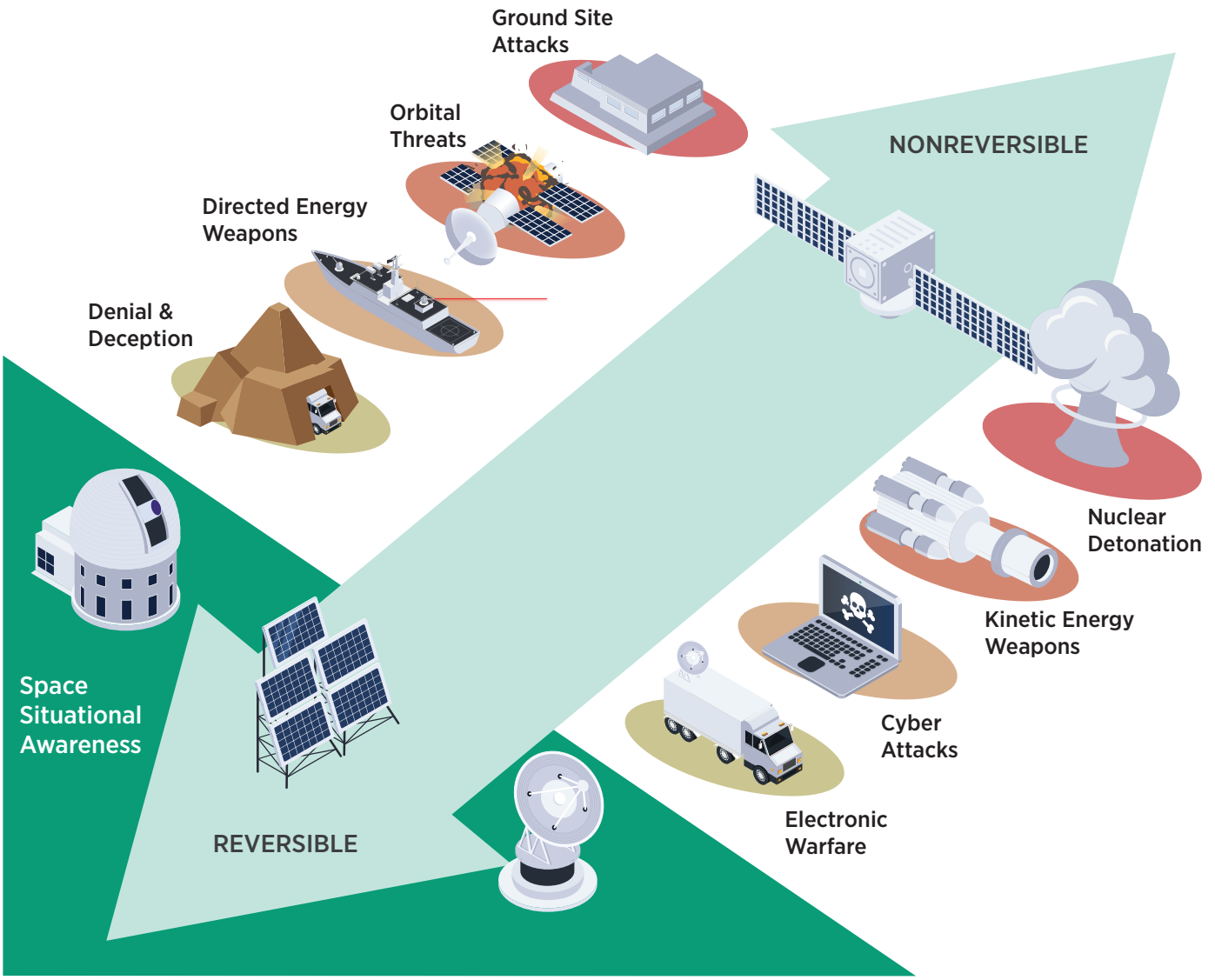
Space-based remote-sensing, communication, and navigation systems are used for various commercial, civilian, and military applications. Many nations, including China and Russia, have recognized the benefits of investing in and using space technologies. Those space capabilities include:

- Space-based remote-sensing or ISR satellites gather data of security concern and support intelligence and military activities, such as tracking and monitoring military forces and observing related events and locations. Space-based remote-sensing also supports civilian activities, such as crop and weather monitoring, as well as disaster response sites and operations.[26]
- Satellite communications is used for beyond-line-of-sight communications, including voice and television services. Communications satellites also enable Internet and other communications to reach remote areas without direct connectivity. Military SATCOM improves C2, allowing for greater mobility over greater distances by eliminating the need for ground-based infrastructure.[27]
- Positioning, navigation, and timing (PNT) services transmit timing signals for various applications, including air, land, sea, and space navigation; asset tracking; and precision weapons guidance. PNT also supports civilian transportation; precision farming; autonomous vehicle guidance; time synchronization for electrical power grids and banking transactions; communications across wireless Internet and emergency medical, fire, and police services; as well as navigation services for rail, road, air, and ocean cargo operations.[28]
- Space launch vehicles (SLVs) place objects in Earth orbit or put them on trajectories to explore the farthest reaches of space. For decades, this capability was restricted to a few spacefaring nations. The number of organizations able to launch satellites is small and placing satellites in orbit has usually been the largest expense in space operations. However, during the past 10–12 years, other nations have been developing SLVs, and increasing numbers of commercial entities worldwide have steadily fielded new capabilities. As a result, the average price, and thus barrier, to entry into space, has declined.[29]

As more nations and more services depend on space-based capabilities—especially in critical social and economic sectors, such as medical, disaster response, weather forecasting, and financial transactions—the loss or degradation of those capabilities will increasingly disrupt daily life.[30] Space asset disruption will probably lead to degradation of critical military and intelligence capabilities. Such disruptions can deny access to space for scientific purposes and negatively impact technological innovation.[31,32,33]

[See the Appendix on Space and Counterspace Concepts for additional details.]

Counterspace Threat Continuum



The counterspace continuum represents the range of threats to space-based services, arranged from reversible to nonreversible effects. Reversible effects from denial and deception and EW are nondestructive and temporary, and the system is able to resume normal operations after the incident. Directed energy weapons (DEW), cyberspace threats, and orbital threats can cause temporary or permanent effects. Permanent effects from kinetic energy attacks on space systems, physical attacks against space-related ground infrastructure, and nuclear detonation in space would result in degradation or physical destruction of a space capability.

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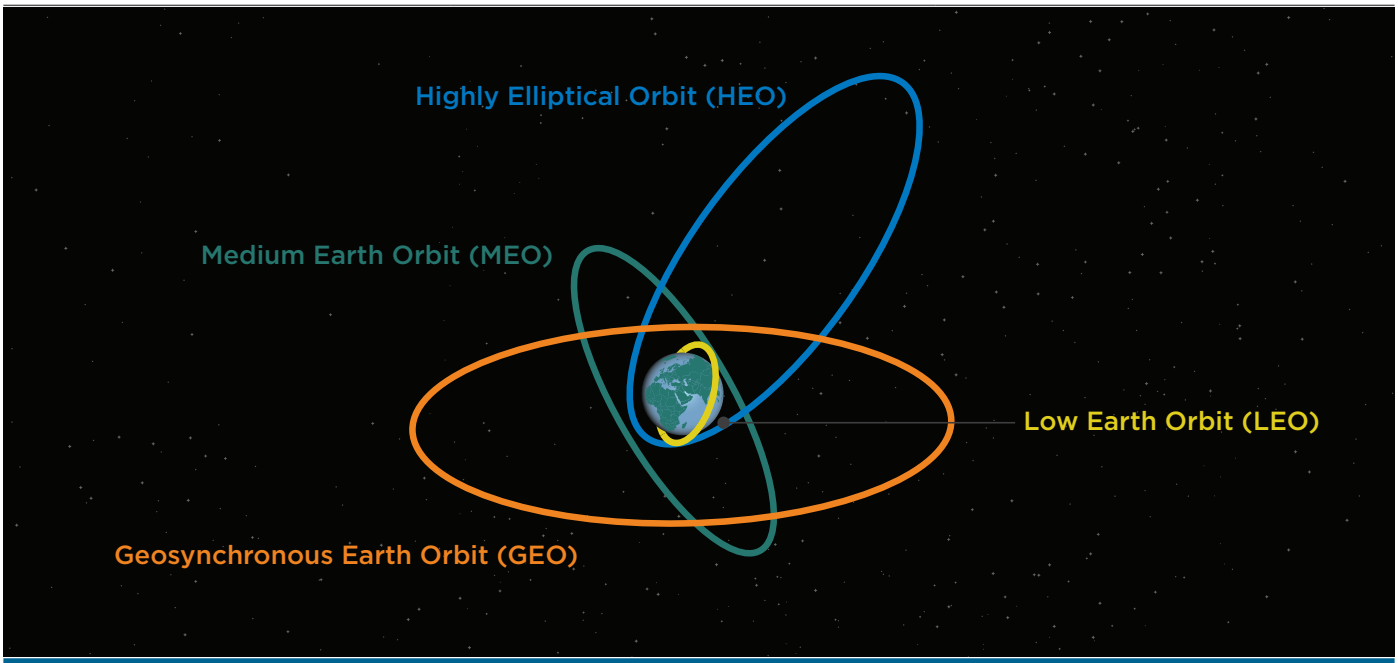
DENYING SPACE

Competitor nations have capabilities to deny others the use of space assets. Space is a critical enabler for U.S. and allied military forces during operations, exercises, and logistics around the world providing for near-instantaneous communications, situational awareness, and precision navigation for our forces. Military and civilian space services are not easily separated. Actions taken by any nation to interfere with space services used by the military probably would deny civilian space services as well, either accidentally or with purpose. Although many counterspace weapons are intended to degrade space services temporarily, others can damage or destroy satellites permanently.

- Physical or cyberattacks against ground sites and infrastructure supporting space operations can threaten satellite services.
- Space situational awareness sensors predict when satellites pass overhead. This allows for tracking, warning, and, if necessary, targeting of space-based systems.
- Adversaries can jam global navigation and communications satellites used for C2 of naval, ground, and air forces as well as manned and unmanned vehicles.
- Adversary DEWs that target ISR satellites almost certainly are able to temporarily or permanently blind imagery satellites and other strategic sensors, thereby denying the ability to monitor, track, and target forces.
- Adversary ASAT missiles can be used to attack satellites in LEO and would produce massive amounts of debris that can remain in orbit for decades or even centuries. China tested an ASAT missile against its own defunct weather satellite in 2007, which created a debris cloud that poses a threat to satellites in nearby orbits today.[34] Russia used an ASAT missile as recently as 15 November 2021 to destroy one of its derelict satellites in orbit.[35]
- Other space-based weapons can deliver temporary or permanent effects on other satellites.

Countries with nuclear weapons can launch a warhead on a long-range booster, such as an intercontinental ballistic missile (ICBM) or SLV, and probably conduct a high-altitude nuclear detonation, which would create widespread electromagnetic disruptions in space and on Earth leading to potential damage or destruction of satellites.[36]

Orbit Types and Uses[37,38]



Orbit	Altitude*	Uses
Low Earth Orbit	Up to 2,000 kilometers	- Communications - ISR - Human Spaceflight †
Medium Earth Orbit	Approx. 2,000 to 20,000 kilometers	- Communications - Positioning, Navigation, and Timing
Highly Elliptical Orbit	LEO altitudes at perigee (nearest to Earth) Approx. 40,000 kilometers at apogee (farthest from Earth)	- Communications - ISR - Missile Warning
Geosynchronous Earth Orbit	Approx. 36,000 kilometers	- Communications - ISR - Missile Warning

** The advantages of higher orbits for communications and ISR are near-persistent coverage of most of the Earth in view of the satellite, with the exception of Earth's polar regions where it is limited. LEO satellites cover all parts of the world, including the poles, but for shorter periods based on the speed of the satellite.*

† With the exception of nine U.S. Apollo missions to the Moon, all human spaceflight has been completed in LEO.

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Image Source: Noel CELIS/AFP

Long March-5 (LM-5) carrying China's Tianwen-1 mission to Mars, launching from Wenchang Space Launch Center.

CHINA

> Exploring the vast universe, developing space programs, and becoming an aerospace power have always been the dream we have been striving for.
>
> —Xi Jinping, General Secretary of the Chinese Communist Party, 24 April 2016, Remarks on the first China Space Day[39]

> Space has already become a new domain of modern military struggle; it is a critical factor for deciding military transformation; and it has an extremely important influence on the evolution of future form-states, modes, and rules of war. Therefore, following with interest the military struggle circumstance of space and strengthening the study of the space military struggle problem is a very important topic we are currently facing.
>
> —China's *Science of Military Strategy*, 2020 *National Defense University* [40]

China has devoted considerable economic and technological resources to growing all aspects of its space program, improving military space applications, developing human spaceflight, and conducting lunar and Martian exploration missions.[41] During the past 10 years, China has doubled its launches per year and the number of satellites in orbit.[42,43] China has placed three space stations in orbit, two of which have since deorbited, and the third of which launched in 2021.[44,45,46,47,48] Furthermore, China has launched a robotic lander and rover to the far side of the Moon;[49] a lander and sample return mission to the Moon;[50,51,52,53] and an orbiter, lander, and rover in one mission to Mars.[54,55,56] China has also launched multiple ASAT missiles that are able to destroy satellites and developed mobile jammers to deny SATCOM and GPS.[57,58,59,60,61,62,63]

Beijing's goal is to become a broad-based, fully capable space power.[64] Its rapidly growing space program—second only to the United States in the number of operational satellites—is a source of national pride and part of Chairman Xi Jinping's "China Dream" to establish a powerful and prosperous China. The space program, managed by the People's Liberation Army (PLA), supports both civilian and military interests, including strengthening its science and technology sector, growing international relationships, and modernizing the military. China seeks to rapidly achieve these goals through advances in the research and development of space systems and space-related technology.[65,66,67,68,69]

China will continue to launch a range of satellites that substantially enhance its ISR capabilities; field advanced communications satellites able to transmit large amounts of data; increase PNT capabilities; and deploy new weather and oceanographic satellites.[70] China has also developed and probably will continue to develop weapons for use against satellites in orbit to degrade and deny adversary space capabilities.[71,72,73]

Image Source: Xinhua via AFP

The Beijing Aerospace Control Center (BACC) during the 2 August 2020 launch of the Tianwen-1 mission to Mars.

Military Strategic Guidelines

In 2015, Beijing's official release of *China's Military Strategy* directed the PLA to research and give priority to strategies to win "informatized local wars" and emphasized "maritime military struggle."[74] Chinese military strategy documents also emphasize the growing importance of offensive air, long-distance mobility, and space and cyberspace operations. China expects its future wars to be fought mostly outside its borders and in the maritime domain. China promulgated its military strategy and the supporting documents through its most recent update to its military strategic guidelines, the top-level directives that Beijing uses to define concepts, assess threats, and set priorities for planning, force posture, and modernization.[75]

The PLA uses "informatized warfare" to describe the process of acquiring, transmitting, processing, and using information to conduct joint military operations across the land, sea, air, space, and cyberspace domains and the electromagnetic spectrum during a conflict. PLA writings guide much of China's military modernization today and highlight the benefit of near-real-time shared awareness of the battlefield in enabling quick, unified efforts to seize tactical opportunities. In November 2020, China's Central Military Commission issued a trial update to PLA joint doctrine to codify warfighting reforms and will almost certainly improve its ability to conduct joint operations.[76] Space-based systems will play an increasingly important role in support of these goals.[77]

Space Strategy and Doctrine

China officially advocates for the peaceful use of space and is pursuing agreements in the United Nations on the nonweaponization of space.[78] China also continues to improve its counterspace weapons capabilities and has enacted military reforms to better integrate cyberspace, space, and EW into joint military operations. China's space strategy is expected to evolve over time, keeping pace with the application of new space technology. These changes probably will be reflected in published national space strategy documents, through space policy actions, and in programs enacted by political and military leadership.

The PLA views space superiority, the ability to control the space-enabled information sphere and to deny adversaries their own space-based information gathering and communication capabilities, as a critical component to conduct modern "informatized warfare."[79,80,81,82] China's first public mention of space and counterspace capabilities came as early as 1971, largely from academics reviewing foreign publications on ASAT technologies. However, Chinese science and technology efforts on space began to accelerate in the 1980s, most likely as a result of the U.S. space-focused Strategic Defense Initiative to defend against the former Soviet Union's nuclear weapons.[83] Subsequently, after observing the U.S. military's performance during the 1991 Gulf War through actions in Kosovo, Afghanistan, and the second Iraq War, the PLA embarked on an effort to modernize weapon systems, across all domains including space, and update its doctrine to focus on using and countering adversary information-enabled warfare.[84]

China's perceptions of the importance of space-enabled operations to the United States and its allies has shaped integral components of PLA military planning and campaigns. In addition, space is a critical enabler of beyond-line-of-sight operations for deployed Chinese forces, and the PLA probably sees counterspace operations as a means to deter and counter a U.S. intervention during a regional military conflict.[85,86] China has claimed that "destroying or capturing satellites and other sensors" would make it difficult for the U.S. and allied militaries to use precision-guided weapons.[87] Moreover, Chinese defense academics suggest that reconnaissance, communication, navigation, and early warning satellites could be among the targets of attacks designed to "blind and deafen the enemy."[88]

Space and Counterspace Organizations

China's space program comprises organizations in the military, political, defense-industrial, and commercial sectors. The PLA historically has managed China's space program and continues to invest in improving China's capabilities in space-based ISR, SATCOM, satellite navigation, human spaceflight, and robotic space exploration.[89] Although state-owned enterprises are China's primary civilian and military space contractors, China is placing greater emphasis on decentralizing and diversifying its space industry to increase competition.[90]

In 2015, China established the Strategic Support Force (SSF) to integrate cyberspace, space, and EW capabilities into joint military operations as part of its military reforms.[91,92,93] The SSF forms the core of China's information warfare force, supports the entire PLA, and reports directly to the Central Military Commission.

The SSF, led by PLA General Ju Qiansheng,[94] is divided into two major departments: the Space Systems Department (SSD), very likely consolidating the majority of the PLA's space functions, and the Network Systems Department (NSD), very likely in charge of cyberspace operations and EW.[95,96] The SSD focuses primarily on satellite launches and operations to support ISR, navigation, and communication requirements.[97] The SSD's China Launch and Tracking Control (CLTC) operates all four launch sites, in addition to Yuanwang space support ships, two major satellite control centers—Xian Satellite Control Center (XSCC) and the BACC—and the PLA telemetry, tracking, and control (TT&C) system for all Chinese satellites.[98,99] The EW functions of the PLA before 2015 were probably transferred to the NSD when it was stood up in 2015 as well.[100,101]

The State Council's State Administration for Science, Technology, and Industry for National Defense (SASTIND) is the primary civilian organization that coordinates and manages China's space activities, including allocating space research and development funds.[102] It also maintains a working relationship with the PLA organization that oversees China's military acquisitions. SASTIND guides and establishes policies for state-owned entities conducting China's space activities.[103]

The China National Space Administration (CNSA), subordinate to SASTIND, serves as the public face of China's civilian space efforts.[104] China is increasingly using CNSA efforts to bolster relationships with countries around the world, providing opportunities to cooperate on space issues.[105,106,107] As of 2019, China had more than a hundred cooperative space-related agreements with more than three dozen countries and four international organizations.[108,109]

Many space technologies can serve a civilian and military purpose and China emphasizes "military-civil fusion"—a phrase used, in part, to refer to the use of dual-use technologies, policies, and organizations for military benefit.[110] The SSF works with civilian organizations like universities and research organizations to incorporate civilian support to military efforts since there is an already high demand for aerospace talent and competition for finite human resources.[111] China's commercial space sector features partially state-owned enterprises such as Zhuhai Orbita, Expace, Galactic Energy, and OK-Space for remote sensing, launch, and communication services.[112,113,114,115]

Acquisition of Foreign Space and Counterspace Technologies

The PLA continues to rely on overt and covert acquisition of foreign space and counterspace technologies to build Chinese knowledge and advance technological modernization as a supplement to its domestic research. China uses traditional technical espionage and cyberespionage techniques as well as its open-source collection network, technology transfer organizations, and exploitation of overseas scholars. Acquisition of foreign technology is used

to circumvent the costs of research and facilitate "leapfrog" development by exploiting the creativity of other nations.[116]

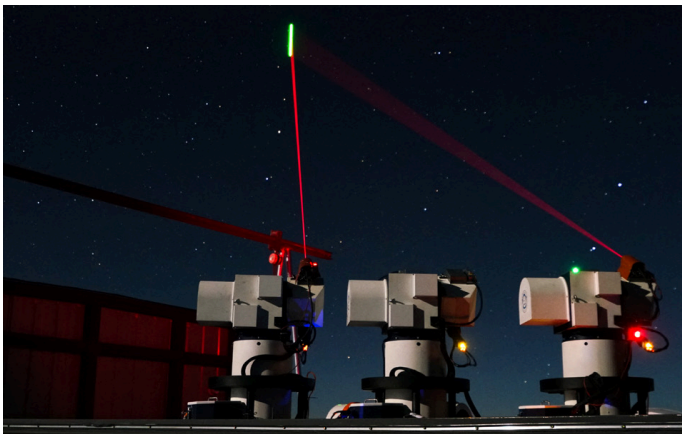


Image Source: Xinhua via AFP

A 10 December 2016 satellite-to-Earth link from Ali, Tibetan Autonomous Region to China's Micius Quantum Teleportation Satellite Experiment.

ISR Satellite Capabilities

China employs a robust space-based ISR capability designed to enhance its worldwide situational awareness. Used for military and civilian remote sensing and mapping, terrestrial and maritime surveillance, and intelligence collection, China's ISR satellites are capable of providing electro-optical and synthetic aperture radar (SAR) imagery as well as electronic and signals intelligence data.[117] China also exports its satellite technology globally, including its domestically developed remote-sensing satellites.

As of January 2022, China's ISR satellite fleet contained more than 250 systems—a quantity second only to the United States, and nearly doubling China's in-orbit systems since 2018.[118,119] The PLA owns and operates about half of the world's ISR systems, most of which could support monitoring, tracking, and targeting of U.S. and allied forces worldwide, especially throughout the Indo-Pacific region. These satellites also allow the PLA to monitor potential regional flashpoints, including the Korean Peninsula, Taiwan, Indian Ocean, and the South China Sea.[120,121,122]

Recent improvements to China's space-based ISR capabilities emphasize the development, procurement, and use of increasingly capable satellites with digital camera technology as well as space-based radar for all-weather, 24-hour coverage. These improvements should increase China's monitoring capabilities—including observation of U.S. aircraft carriers, expeditionary strike groups, and deployed air wings, making them more susceptible to long-range strikes. Space capabilities probably will enhance potential PLA military operations farther from the Chinese coast.[123,124,125,126] These capabilities are being augmented with electronic reconnaissance satellites that monitor radar and radio transmissions.[127]

Satellite Communications

China owns and operates more than 60 communications satellites, at least 4 of which are dedicated to military use.[128] China produces its military-dedicated satellites domestically. Its civilian communications satellites incorporate off-the-shelf commercially manufactured components.[129] China is fielding advanced communications satellites capable of transmitting large amounts of data.[130] Existing and future data relay satellites and other beyond-line-of-sight communications systems could convey critical targeting data to Chinese military operation centers.[131,132,133]

In addition, China is making progress on its ambitious plans to propel itself to the forefront of the global SATCOM industry.[134,135,136] China is continuing to test next-generation capabilities like its Quantum Experimentation at Space Scale (QUESS) space-based quantum-enabled communications satellite, which could supply the means to field highly secure communications systems.[137,138] In June 2020, a team of Chinese scientists claimed to achieve quantum supremacy, reporting successful satellite-based distributions of entangled photon pairs at a distance of more than 1,200 kilometers and that the photon pairs' integrity remained intact after traveling such distances. Testing satellite-based quantum entan-

glement represents a major milestone in building a practical, global, ultrasecure quantum network, but the widespread deployment and adoption of this technology still faces hurdles.[139,140]

China also intends to provide SATCOM support to users worldwide and plans to develop at least seven new SATCOM constellations in LEO. However, as these constellations are still in the early stages of development their effectiveness remains uncertain.[141,142,143,144,145]

PNT Capabilities

China's satellite navigation system, known as BeiDou, is an independently constructed, developed, and exclusively China-operated PNT service. China's priorities for BeiDou are to support national security and economic and social development by adopting Chinese PNT into precise agriculture, monitoring of vehicles and ships, and aiding with civilian-focused services across more than 100 countries in Africa, Asia, and Europe.[146,147] BeiDou provides all-time, all-weather, and high-accuracy PNT services to users domestically, in the Asia-Pacific region, as well as globally and consists of 49 operational satellites.[148,149,150,151,152,153,154] Initially deployed to facilitate regional PNT services, BeiDou achieved worldwide initial operating capability in 2018.[155,156] In June 2020, China successfully launched the final satellite in the BeiDou satellite constellation, completing its global navigation system.[157] China's military uses BeiDou's high-accuracy PNT services to enable force movements and precision-guided munitions delivery.[161,162]

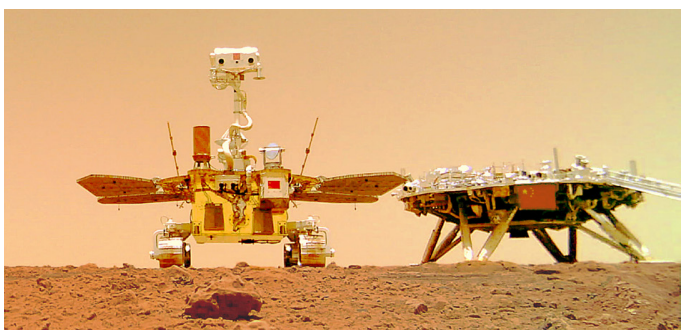


Image Source: Xinhua via AFP

China's Zhurong rover and Tianwen lander on Utopia Planitia, Mars, 11 June 2021.[158,159,160]

BeiDou has a worldwide positional accuracy standard of 10 meters; accuracy in the Asia-Pacific region is within 5 meters.[163] In addition to providing PNT, the BeiDou constellation offers unique capabilities, including text messaging and user tracking through its Regional Short Message Communication service to enable mass communications among BeiDou users. The system also provides additional military C2 capabilities for the PLA.[164,165,166]

China intends to use its BeiDou constellation to offer additional services and incentives to countries taking part in its Belt and Road Initiative emphasizing building strong economic ties to other countries to align partner nations with China's interests.[167,168] As of May 2021, China is predicting Beidou products and services will be worth $156 billion by 2025, and potentially export BeiDou products to more than 100 million users in 120 countries.[169]

Human Spaceflight and Space Exploration

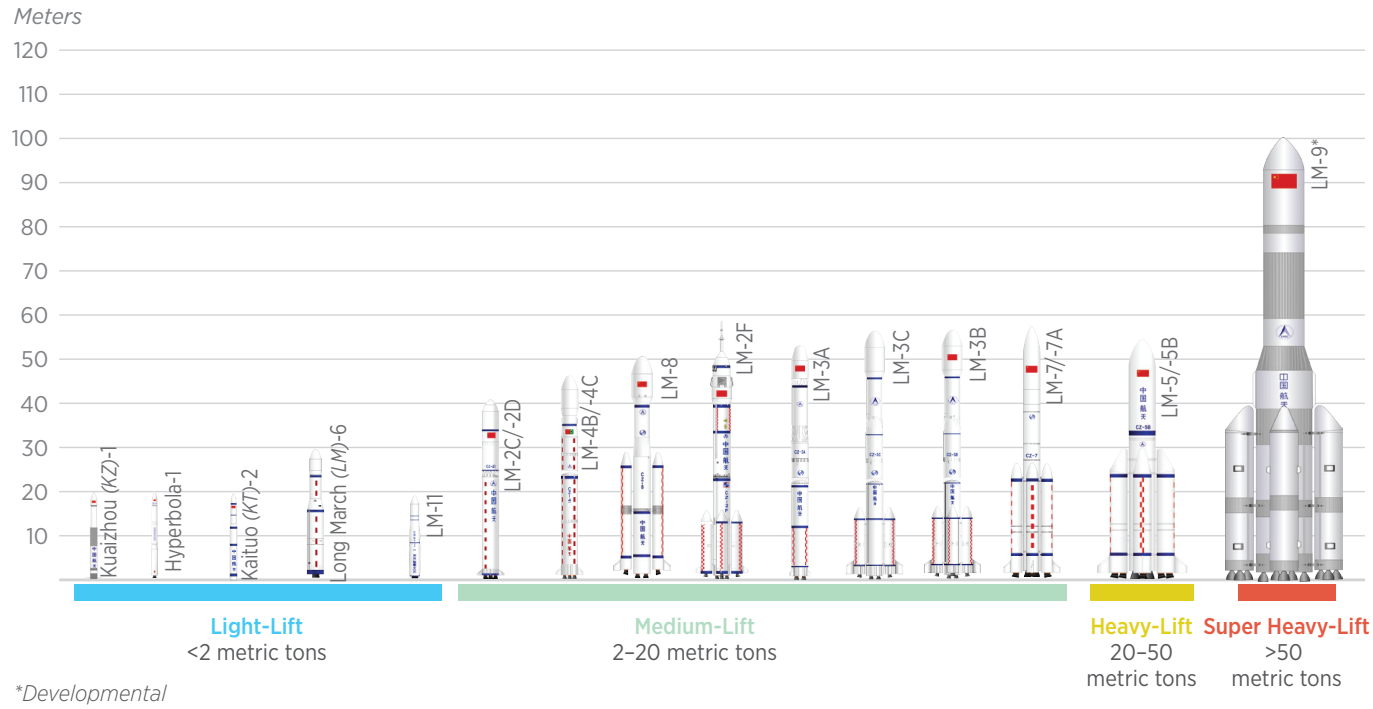
Following uncrewed missions that began in 1999, China became the third country to achieve independent human spaceflight when it successfully orbited the crewed Shenzhou-5 spacecraft in 2003.[170,171,172] In 2011, China then launched its first space station, Tiangong-1, and in 2016, it launched its second space station, Tiangong-2.[173,174,175] In 2020, China conducted its first orbital test of the New-Generation Manned Spaceship, which is expected to replace the Shenzhou series of crewed spacecraft.[176] On 29 April 2021, China launched the first element, Tianhe, of its new Tiangong space station.[177] Beijing launched the first supply vessel, Tianzhou, and has launched two Chinese crews since then.[178,179]

China has also taken on a greater role in deep space exploration and space science and has made notable accomplishments during the past several years. China has demonstrated its interest in working with Russia and the European Space Agency (ESA) to con

China: Space Exploration Missions

Mission	Description	Launch Date
Yinghou-1	Mars orbiter launched aboard Russian *Phobos-Grunt* spacecraft. Mission failed to exit LEO.[180]	2011
XPNAV-1	The world's first X-ray navigation satellite test—uses distant X-ray pulsars to navigate and determine its location in the solar system within 5 kilometers.[181]	2016
SISASAIL-1	Solar sail technology test for future deep-space missions.[182]	2019
Chang'e-4	First-ever landing on lunar far side; mission included a rover and lander and the lunar relay satellite, which was launched in May 2018.[183,184,185,186]	2019
Tianwen-1	Martian orbiter, lander, and rover.[187,188,189,190]	2020
Chang'e-5	Robotic mission landed on the Moon, collected samples, and returned them to Earth.[191,192,193,194]	2020
Tiangong	Modular space station designed to host Chinese and foreign payloads and astronauts.[195,196,197,198,199,200]	2021–2022
Chang'e-6	Robotic mission to land, collect samples from the Moon's south pole, and return to Earth.[201]	2023
Chang'e-7	Orbiter, relay satellite, lander, rover, and flyby craft. The lander and rover will have ground-penetrating radar, surface magnetometer, and a spectrometer for lunar exploration.[202]	2024
Chang'e-8	Test and verification mission for future lunar expeditions.[203]	TBD
Lunar Robotic Mission	Robotic research station on the Moon.[204,205]	2025
Human Lunar Program	Human lunar exploration program to put astronauts on the Moon.[206,207,208]	Mid-2030s
Lunar Research and Development Base	Establish a research base on the Moon, primarily supported by robotic technology and capable of supporting human visits.[209,210]	By 2050

Chinese Space Launch Vehicles



*Developmental

Depicted payload capacity is approximate and varies depending on planned orbit

The launch vehicles depicted are representative of China's launch capabilities. Additional light-, medium-, and heavy-lift vehicles are in development. China uses its light-lift vehicles to place small payloads into LEO and its medium-lift—specifically the LM-2, LM-3, and LM-4—to place larger satellites into LEO and MEO and smaller satellites in GEO. The LM-5 heavy-lift SLV supports launching crewed space station components to LEO and heavy payloads to GEO. The developmental super heavy-lift LM-9 primarily will support missions to the Moon and Mars.

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duct deep-space exploration.[211,212] China is the third country to place a robotic rover on the Moon and was the first to land a rover on the lunar far side in 2019, which is communicating through the Queqiao relay satellite that China launched the year before to a stable orbit around an Earth-Moon Lagrange point [See Cislunar Chart, page 35].[213,214]

Space Launch Capabilities

China is improving its space launch capabilities to ensure it has an independent, reliable means to access space and to compete in the international space launch market. China continues to improve manufacturing efficiencies and launch capabilities overall, supporting continued human spaceflight and deep-space exploration missions—including to the Moon and Mars.[215] New modular SLVs that allow China to tailor an SLV to the specific configuration required for each customer are beginning to go into operation, leading to increased launch vehicle reliability and overall cost savings for launch campaigns.[216] China is also in the early stages of developing a super heavy-lift SLV similar to the U.S. Saturn V or the newer U.S. Space Launch System to support proposed crewed lunar and Mars exploration missions.[217]

In addition to land-based launches, in 2020 China demonstrated the ability to launch a Long March-11 (LM-11) from a sea-based platform. This capability, if staged correctly, would allow China to launch nearer to the equator than its land-based launch

sites, increase the rocket's carrying capacity, and potentially lower launch costs.[218]

China has developed quick-response SLVs to increase its attractiveness as a commercial small satellite launch provider and to rapidly reconstitute LEO space capabilities, which could support Chinese military operations during a conflict or civilian response to disasters. Compared with medium- and heavy-lift SLVs, these quick-response SLVs are able to expedite launch campaigns because they are transportable via road or rail and can be stored launch-ready with solid fuel for longer periods than liquid-fueled SLVs. Because their size is limited, quick-response SLVs such as the Kuaizhou-1 (KZ-1), LM-6, and LM-11 are only able to launch relatively small payloads of up to approximately 2 metric tons into LEO.

Chinese Space Launch, SSA, Satellite Control Centers, Command and Control, and Data Reception Stations[219,220]

China has four fixed launch sites. The newest, Wenchang on Hainan Island, has a launch latitude closer to the Equator, which provides a more efficient path to launch satellites into GEO. In 2020, China launched a LM-11 from a barge based in Haiyang Port. China's main satellite control center is in Xian, and its primary control center for human space flight and lunar missions is in Beijing. The PLA operates four large phased array radars (LPAR) most likely used for missile warning and SSA. Additionally, there are at least six ground stations used for satellite C2—including one in Neuquén, Argentina, and five for receiving remote sensing data from satellites—including one located in Kiruna, Sweden.

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In June 2020, China announced its intention to upgrade the payload capacity of the LM-11 in the new LM-11A, designed for land or sea launches, beginning in 2022.[221,222,223,224]

The expansion of nonstate-owned Chinese launch vehicle and satellite operation companies in China's domestic market since 2015 suggests that China is successfully advancing military-civil fusion efforts. Military-civil fusion blurs the lines between these entities and obfuscates the end users of acquired foreign technology and expertise.[225]

Space Situational Awareness

China has a robust network of space surveillance sensors capable of searching, tracking, and characterizing satellites in all Earth orbits. This network includes a variety of telescopes, radars, and other sensors that allow China to support its missions including intelligence collection, counterspace targeting, ballistic missile early warning

Image Source: Xinhua via AFP

The four Chinese Yuanwang space tracking ships—based in Jiangyin, near Shanghai, and usually supporting space launch operations from positions in the Pacific and Indian Oceans—are part of China's SSA network. In early 2020, China's Yuanwang-7 conducted operations in the Atlantic Ocean, a first for Yuanwang space support vessels.

Chinese International SSA Efforts Collaboration and Overseas Tracking, Telemetry, and Control Sites

China leads the Asia-Pacific Space Cooperation Organization (APSCO), a multilateral organization with rotating leadership whose members include China, Bangladesh, Iran, Mongolia, Pakistan, Peru, Thailand, and Turkey with Egypt, Indonesia, and Mexico as associate members.[226] APSCO oversees a space surveillance project known as the Asia-Pacific Ground-Based Optical Space Object Observation System (APOSOS). As part of the project, China provided to Iran, Pakistan, and Peru 15-cm telescopes that are able to track objects in LEO and GEO. All tasking information and subsequent observation data collected is funneled through the Chinese Academy of Science's National Astronomical Observatory of China. APOSOS has near full coverage of LEO and GEO. The organization is planning to improve optical system capabilities, coverage, and redundancy as well as data sharing networks.[227,228,229]

China has established locations worldwide to aid in TT&C of space missions both around the Earth as well as in cislunar and deep space. There are ground stations in Argentina, Australia, Brazil, Canada, Chile, Ethiopia, France, Greenland, Kenya, Kiribati, Namibia, Norway, Pakistan, South Africa, Spain, and Sweden. There are also four sites in Antarctica that can provide similar support as well as a BeiDou reference station: Great Wall, Kunlun, Taishan, and Zhongshan Stations.[230]

(BMEW), spaceflight safety, satellite anomaly resolution, and space debris monitoring.[231,232]

Electronic Warfare Capabilities

The PLA considers EW capabilities to be critical assets for modern warfare, and its doctrine emphasizes using EW to suppress or deceive enemy equipment.[233] The PLA routinely incorporates in its exercises jamming and antijamming techniques that probably are intended to deny multiple types of space-based communications, radar systems, and GPS navigation support to military movement and precision-guided munitions employment.[234] China probably is developing jammers dedicated to targeting SAR, including aboard military reconnaissance platforms. Interfering with SAR satellites very likely protects terrestrial assets by denying imagery and targeting in any potential conflict involving the United States or its allies.[235,236] In addition, China probably is developing jammers to target SATCOM over a range of frequency bands, including military-protected extremely high frequency communications.[237,238]

Cyberthreats

The PLA emphasizes offensive cyberspace capabilities as a major component of integrated warfare and could use its cyberwarfare capabilities to support military operations against space-based assets.[239,240] For example, the PLA could employ its cyberattack elements to establish information dominance in the early stages of a conflict to constrain an adversary's actions or slow its mobilization and deployment by targeting network-based command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR); logistics; and commercial activities.

The PLA also conducts cyberespionage against foreign space entities, consistent with broader state-sponsored industrial and technical espionage, to increase its level of technologies and expertise available to support military research, development, and acquisition. The PLA unit responsible for conducting signals intelligence has supported cyberespionage against U.S. and European satellite and aerospace industries since at least 2007.[241,242]

Directed Energy Weapons

During the past two decades, Chinese defense research has proposed the development of several reversible and nonreversible counterspace DEWs for reversible dazzling of electro-optical sensors and even potentially destroying satellite components. China has multiple ground-based laser weapons of varying power levels to disrupt, degrade, or damage satellites that include a current limited capability to employ laser systems against satellite sensors.[243] By the mid- to late-2020s, China may field higher power systems that extend the threat to the structures of nonoptical satellites.[244,245,246,247,248]

ASAT Missile Threats

In 2007, China destroyed one of its defunct weather satellites more than 800 kilometers above the Earth with an ASAT missile. The effect of this destructive test generated more than 3,000 pieces of trackable space debris, of which more than 2,700 remain in orbit and most will continue orbiting the Earth for decades.[249,250] The PLA's operational ground-based ASAT missile system is intended to target LEO satellites. China's military units have continued training with ASAT missiles.[251,252]

China probably intends to pursue additional ASAT weapons that are able to destroy satellites up to GEO. In 2013, China launched an object into space on a ballistic trajectory with a peak orbital radius above 30,000 kilometers, near GEO altitudes. No new satellites were released from the object, and the launch profile was inconsistent with traditional

SLVs, ballistic missiles, or sounding rocket launches for scientific research, suggesting a basic capability could exist to use ASAT technology against satellites at great distances and not just LEO.[253,254]

Orbital Threats

China is developing other sophisticated space-based capabilities, such as satellite inspection and repair. At least some of these capabilities could also function as a weapon. China has launched multiple satellites to conduct scientific experiments on space maintenance technologies and is conducting research on space debris cleanup; the most recent launch was the Shijian-21 launched into GEO in October 2021.[255,256,257] In January 2022, Shijian-21 moved a derelict BeiDou navigation satellite to a high graveyard orbit above GEO.[258] The Shijian-17 is a Chinese satellite with a robotic arm. Space-based robotic arm technology could be used in a future system for grappling other satellites.[259]

Since at least 2006, the government-affiliated academic community in China began investigating aerospace engineering aspects associated with space-based kinetic weapons—generally a class of weapon used to attack ground, sea, or air targets from orbit. Space-based kinetic weapons research included methods of reentry, separation of payload, delivery vehicles, and transfer orbits for targeting purposes.[260,261,262,263,264,265] China conducted the first fractional orbital launch of an ICBM with a hypersonic glide vehicle from China on 27 July 2021. This demonstrated the greatest distance flown (~40,000 kilometers) and longest flight time (~100+ minutes) of any Chinese land attack weapons system to date.[266]

Image Source: Xinhua via AFP

The 15 September 2020 LM-11 launch from the Yellow Sea carrying nine satellites including the Jilin-1 Gaofen 03-1.

Image Source: Sputnik via AFP

Russian Space Agency ROSCOSMOS launch of a Soyuz-2.1b from Vostochnyy Cosmodrome. Vostochnyy is Russia's newest space launch facility, located in the Russian Far East. It is partially operational with construction still ongoing and once complete, this location will reduce Russia's reliance on the Baikonur Cosmodrome in Kazakhstan to access orbits which are unreachable from its more northerly main space launch center, Plesetsk.

RUSSIA

Image Source: Russia Ministry of Defense/Creative Commons 4.0 Copyright

General Colonel Aleksandr Golovko, the first and current Commander of Russia's Aerospace Forces, is seen here at the launch of a Global Navigation Satellite System-M (GLONASS M) satellite in November 2018.[267,268]

> In the new, 21st century, Russia must maintain its status as a leading nuclear and space power because the space industry is directly linked with defence [sp] and I would like to remind you of this. Today, we will discuss issues related to long-term priorities of space exploration and will analyse [sp] what we must do to strengthen our positions in this truly strategic area.
>
> —Russian President Vladimir Putin, 12 April 2021[269]

> Slowly but surely, we are heading toward [militarization of space]. Roscosmos has no illusions about this. Everyone is working on it.
>
> —Dimtry Rogozin, Chief, *Russian State Corporation Roscosmos*[270]

Russia views its space program as a longstanding example of its leadership on the international stage. Russia is a pioneer of space dating back to the former Soviet Union launching the first satellite, Sputnik-1, in 1957 and placing the first person into Earth orbit, Yuri Gagarin, in 1961. The International

Space Station's (ISS) reliance on Russian launch vehicles to carry astronauts to and from the station from 2011 to 2020 reinforced the perception of Moscow as a global leader in space, which garnered Russia a measure of prestige and economic support for its space program.[271]

Russia's space program is robust but more narrowly focused than China's. Additionaly, Moscow's budget is more limited than Beijing's because of competing priorities within Russia's broader military modernization efforts.[272] In the years following the end of the Cold War, a combination of economic constraints and technological setbacks caused a decay of Russian space capabilities, including space-based remote sensing and satellite navigation.[273] Nonetheless, during the past two decades, Moscow has continued to pursue space services in support of terrestrial applications while developing a suite of counterspace weapon capabilities, including EW to deny, degrade, and disrupt communications and PNT and DEWs to deny the use of space-based imagery.[274,275] Russia is developing a mobile missile that is able to destroy satellites and crewed space vehicles.[276,277,278,279]

Space Strategy and Doctrine

Russia openly supports space arms control agreements to prevent weaponization of space, even as Russian military doctrine and authoritative writings clearly articulate that Russia views space as a warfighting domain and that achieving supremacy in space will be a decisive factor in winning future conflicts.[280,281,282,283,284] Russian military thinkers believe the importance of space will continue to expand because of the growing role of precision weapons and satellite-supported information networks in all types of conflict.[285,286] Moscow regularly expresses concern about space weapons and is pursuing legal, binding space arms control agreements to curb what it sees as U.S. strength in outer space.[287,288,289] At the same time, Russia is developing an arsenal of counterspace capabilities to attack U.S. and allied assets.[290,291,292,293,294,295,296,297,298,299,300,301,302,303,304,305,306]

As Russia continues to modernize its military, it will increasingly integrate space services into its armed forces. Russia has a strong foundation of technical knowledge and expertise fostered by more than 60 years of experience in space. However, Moscow sees overreliance on space as a potential vulnerability and is determined to avoid becoming excessively dependent on space to conduct its national defense mission.[307,308,309,310] Russia has developed terrestrial redundancies to complement or replace space services that may be denied in a wartime environment.[311]

Russia views space as a critical enabler of U.S. precision-strike and military force projection capabilities. Russia believes that U.S. missile defense systems paired with U.S. space-enabled, conventional precision-strike capabilities undermine strategic stability.[312,313] At the same time, Russia perceives the U.S. dependence on space as its Achilles' heel, which can be exploited to achieve Russian conflict objectives.[314] Russia is therefore pursuing counterspace systems to neutralize or deny U.S. space-based services, both military and commercial, as a means of offsetting a perceived U.S. military advantage.[315,316]

Image Source: U.S. National Archives

The Nedelin-class missile range instrumentation ship (AGM) *Marshal Krylov*, subordinate to Russia's Pacific Fleet. AGM *Marshal Krylov* supports space and missile instrumentation tracking and range support missions.

Russian counterspace doctrine involves employing ground-, air-, cyber-, and space-based systems to target an adversary's satellites with attacks ranging from temporary jamming or sensor blinding to destruction of enemy spacecraft and supporting infrastructure.[317,318,319,320] Moscow believes that developing and fielding counterspace capabilities will deter aggression from adversaries reliant on space.[321] If deterrence fails, Russia believes its counterspace forces will offer its military leaders the ability to control escalation of a conflict through selective targeting of adversary space systems.[322,323]

Space and Counterspace Organizations

In 2015, Russia created the Aerospace Forces by merging the former Air Force and Aerospace Defense Troops. This new force includes the Space Forces, Russia's military element that conducts space launches and operates the BMEW, the satellite control network, and the space surveillance network.[324,325,326] Russia's defense minister stated that the change was "prompted by a shift in the center of gravity toward the aerospace sphere" and as a counter to the U.S. Prompt Global Strike doctrine.[327,328] To accomplish space and counterspace operational tasks, Russia's Space Forces were organized into the 15th Special Purpose Aerospace Army, which consists of the 820th Main Missile Attack Warning Center, the 821st Main Space Reconnaissance Center, and the 153rd Titov Main Test and Space Systems Control Center.[329,330,331,332,333] The Space Forces also operate the Plesetsk Cosmodrome, where they launch military satellites, and the Mozhayskiy Military Space Academy, where they train officers and enlisted personnel in strategic and operational military operations theory and aerospace engineering specialties.[334,335,336]

The reorganization of Russia's civilian space program was designed to improve upon inefficiencies across the sector and readjust from the loss of control over former Soviet space production enterprises in Ukraine. Today the Russian space industry is almost exclusively state owned.[337] The state-owned corporation Roscosmos is the executive body responsible for overall management of the space industry and for carrying out Russia's civilian space program. The space industry primarily comprises 75 design bureaus, enterprises, and companies that carry out research, engineering development, and production of Russia's space technologies, satellites, and SLVs for both civilian and military purposes.[338,339]

During the past few years, Russia has faced several obstacles to its space program. Corruption has been prevalent and has stalled developments,[340] budget cuts and sanctions have delayed projects,[341,342,343] and negligible private space investment has stymied growth and innovation.[344]

Acquisition of Foreign Space and Counterspace Technologies

Moscow directs a whole-of-government approach to select and acquire foreign space and counterspace technologies in support of Russia's economic and military goals. Following the imposition of sanctions by the United States, western Europe, Australia, and Japan in response to Russia's 2014 invasion of the Crimean Peninsula, Moscow has exploited multiple collection paths to mitigate U.S. and European Union (EU) restrictions on Russia's access to space technology, information, and expertise, but sanctions are still affecting space systems production.[345,346] Russia relies on acquisition of Western components because of the decline of its domestic microelectronics industry and because of its inability to realize its import substitution program goals.[347,348,349,350,351,352,353]

ISR Satellite Capabilities

Russia designs and employs some of the world's most capable individual ISR satellites, despite funding shortfalls and technological setbacks limiting the number of such systems in orbit. The fleet contains more than

30 satellites providing electro-optical imagery, a new radar observation platform, missile warning, and electronic and signals intelligence.[354,355,356] At least half of these systems are owned and operated by the Russian Defense Ministry. Space-based sensors provide Russia strategic warning of ballistic missile launches, support targeting of Russian antiship cruise missiles,[357] and support electro-optical imagery requirements for Russian military operations in Syria.[358,359] Setbacks have hindered Russia's ability to launch and maintain its military-dedicated ISR satellites, leading to increased use of its civilian and commercial satellites to fulfill military tasks.[360]

Image Source: Sputnik via AFP

Russia's Luch 5A relay satellite in the Space Pavilion at the Cosmonautics and Aviation Center at the Exhibition of Achievements of the National Economy.

Satellite Communications

Russia owns and operates a diverse constellation of commercial and military communications satellites capable of providing mobile and fixed SATCOM services from various orbital altitudes. In spite of lagging behind other competitors, and the instituting of Western sanctions in 2014, Russia continues to replace aging communications satellites with modern and more capable satellites to preserve and expand its SATCOM capabilities, including through partnerships with European satellite manufacturers.[361,362] The satellites are able to support worldwide military and paramilitary deployments, enabling Moscow to maintain C2 over its military units to support its national objectives.[363,364,365,366,367,368]

PNT Capabilities

GLONASS provides Russia worldwide satellite navigation services and supports Russia's economic development and national security interests.[369] Following the GLONASS constellation's deterioration in the late 1990s, Russia committed to reconstituting GLONASS during the 2000s.[370] Full operating capability was regained in 2011; Russia now launches satellites as needed to maintain the constellation while developing next-generation GLONASS satellites.[371] Russia's military also uses GLONASS to enable military system deployments, force movement, and precision-guided munitions delivery.[372,373,374]

Human Spaceflight and Space Exploration Efforts

Russia's human spaceflight program started in the late 1950s and had its first major milestone with the launch of Yuri Gagarin aboard the *Vostok-1* spacecraft in 1961.[375] Since that historic launch, the former Soviet Union and then Russia has launched the Salyut, Almaz, and Mir Space Stations, multiple elements of the ISS, and several Mars exploration missions; however, only two Mars missions were successful—the last in 1971.[376] Although Russia has talked about withdrawing from the ISS as late as April 2021, it is committed to the effort through at least 2025.[377]

Russia's Luch relay satellites allow Moscow to communicate between the ISS and Earth without reliance on National Aeronautics and Space Administration's (NASA) and U.S. SATCOM systems.[378] Since the manned launch of SpaceX's Crew Dragon to the ISS in May 2020, Russia has offered to sell Soyuz seats to other international partners, such as the United Arab Emirates, to make up revenue from losing U.S. astronaut transportation requirements to the ISS.[379,380]

Like other spacefaring nations, Russia has ambitious plans for lunar exploration and settlement

Russia: Space Exploration Missions[381,382,383]

Mission	Description	Launch Date
Nauka	Russian ISS science module.[384,385]	July 2021[386]
Luna-25	Joint lunar lander project with ESA.[387]	2022[388]
Prichal	Russian ISS docking module.[389]	2021
ExoMars	Joint Mars lander with ESA.[390,391]	TBD
Luna-Grunt	Lunar lander and sample return.[392]	2024
Luna-27	First mission to explore the lunar south pole, where frozen water lies under the surface and where Russia intends to build a base.[393]	2025[394]
Luna-26	Lunar orbital mapping mission.[395]	2024
Luna-28	Lunar sample return mission.[396]	2027–2028
Luna-29	Lunar rover mission.[397]	2028
Expedition-M	Phobos sample return mission.[398]	2026–2035
International Lunar Research Station	Establish a research base on the Moon, primarily supported by robotic technology and capable of supporting human visits.[399]	2025–2035

Image Source: Russia Ministry of Defense/Creative Commons 4.0 Copyright

Russian Aerospace Forces monitor GLONASS satellites at the Titov Main Test and Space Systems Control Center in Krasnoznamensk outside Moscow.[400]

during the next 40 years.[401] Russia has discussed partnering with China, the EU, and the United States to achieve its lunar aspirations.[402] China and Russia signed a memorandum of understanding in March 2021 to work together on the International Lunar Research Station (ILRS).[403,404]

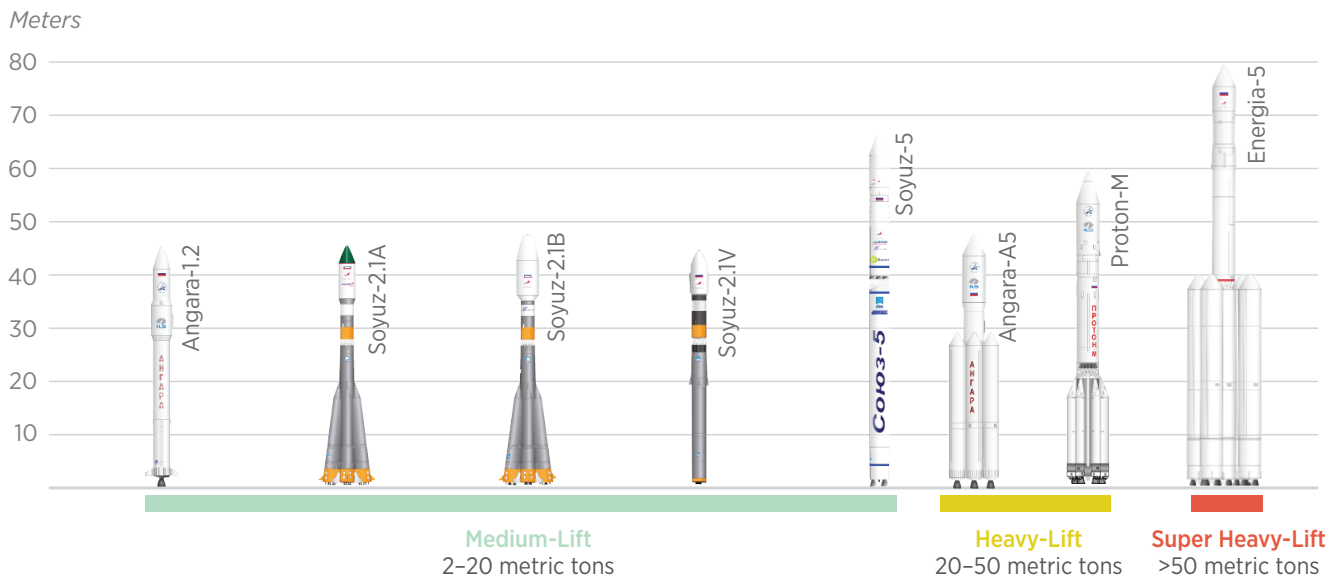
Space Launch Capabilities

Russia is updating and improving its space launch capabilities to enhance reliability, alleviate environmental concerns, increase manufacturing efficiencies, and support future human spaceflight and

Image Source: Sputnik via AFP

Russian Space Agency ROSCOMOS launches Progress MS-14 on Soyuz-2.1a from Baikonur Cosmodrome, Kazakhstan.

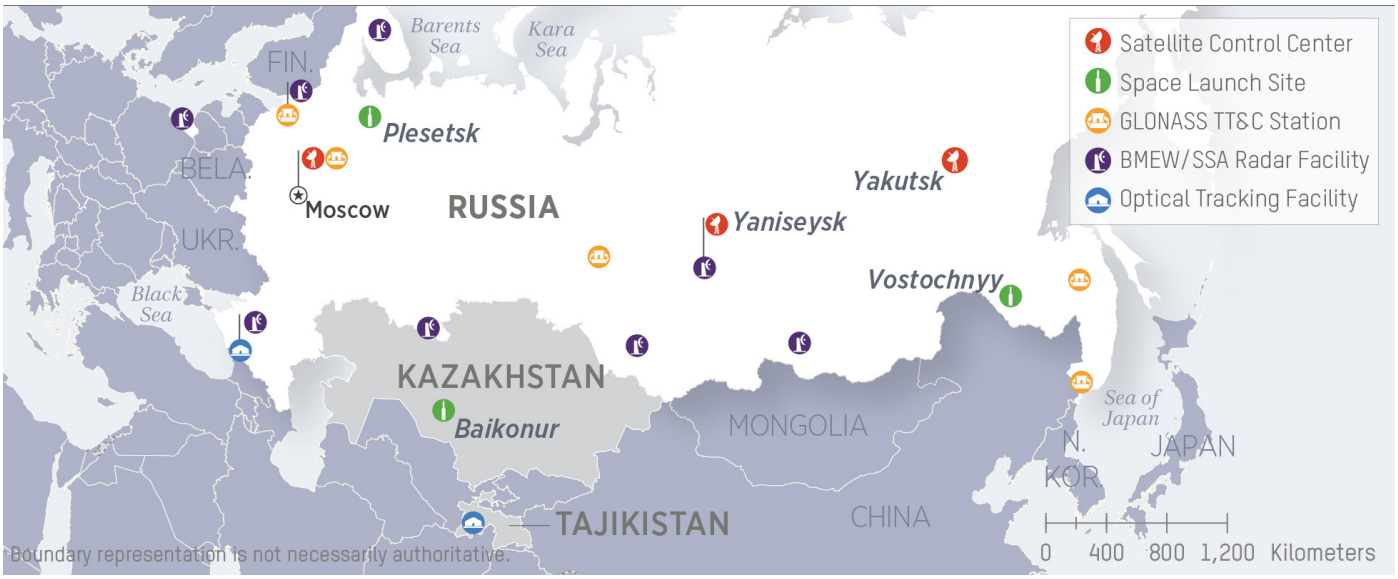
Russian Space Launch Vehicles



Russia has focused on maintaining its own military and civil strategies, using heavier rockets into LEO. Russia's heavy-lift vehicles are mostly used for launching into GEO or HEO. The developmental Energia SLV, designed to boost the Russian space shuttle into orbit, was discontinued in the 1980s. However, it was revived in 2016 to support proposed lunar missions and renamed "Yensei."

2008-26366

Russian Space Launch, SSA, Satellite Control Centers, and Command and Control Stations[405,406,407,408,409,410,411,412,413,414,415,416,417,418,419,420,421,422,423,424,425,426,427,428,429,430,431,432,433]



Russia owns two of its launch sites and leases one from Kazakhstan. The European Space Agency has contracted Russia to conduct launches from Kourou, French Guiana. Inactive spaceports include Kapustin Yar and Svobodny Spaceports. Russia's space control sites are spread across Russia to enable effective satellite C2. GLONASS TT&C stations are similarly spread across Russia to ensure timely control of the navigation constellation. Moscow has spread nine radars at eight locations of various types across its landmass to enable a dual-role BMEW and SSA mission.

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deep-space exploration missions.[434,435]

Russia's updates to its medium- and heavy-lift launch fleets include modular SLVs, which allow Russia to tailor SLVs to the specific configuration required for each customer. Unlike China, Russia has not focused on new light-lift SLV designs, instead usually choosing to launch small satellites in multipayload launches on larger rockets. Russia is also in the early stages of developing a super heavy-lift SLV similar to the U.S. Saturn V or the newer U.S. Space Launch System to support proposed crewed lunar and Mars exploration missions.[436] In 2019, Moscow retired the Soyuz-FG and Rokot, and it has since focused on newer SLVs with similar capabilities.[437,438]

Russia's commercial launch industry acquired the launch systems of a previously Russia-Ukraine-U.S. consortium called Sea Launch. This capability features a mobile floating platform for space launches; however, this effort is plagued by financial hardship and is on hold.[439]

A ban on U.S. purchases of Russian rocket engines is currently set to take effect in 2022, but Russian enterprises probably began to see negative consequences beginning in 2020, as the U.S. demand for these engines decreased. In 2018, 17 of the 19 total engines on order were destined for the United States. Roscosmos has offered to cut prices by 30 percent.[440]

Space Situational Awareness

Russia's space surveillance network, managed by the 821st Main Space Reconnaissance Center, is composed of a variety of telescopes, radars, and other sensors, and is capable of searching for, tracking, and characterizing satellites in all Earth orbits. This network allows Russia to support its various missions including intelligence collection, counter-

Russian International SSA Collaboration

Russia leads the nongovernmental organization International Scientific Optical Network (ISON), which is the largest foreign network of ground-based optical space surveillance sensors. ISON was established in 2001, and participants include international academic and scientific organizations and government entities such as Roscosmos. Russia's Keldysh Institute of Applied Mathematics coordinates sensor tasking and combines information from nearly 100 ground-based optical sensors of varying sizes at 40 observatories across 16 countries—Australia, Bolivia, China, Georgia, Germany, Italy, Kyrgyzstan, Mexico, Moldova, Mongolia, Russia (seven locations) Spain, Switzerland, Ukraine (4 locations), the United States, and Uzbekistan.[441,442,443]

space targeting, spaceflight safety, satellite anomaly resolution, and space debris monitoring. Some of these sensors also perform a BMEW function as their primary mission.[444]

Image Source: NASA Spaceflight Online Forum

Deployed SATCOM jammer in the field.[445]

Electronic Warfare Capabilities

The Russian military views EW as an essential tool for gaining and maintaining information superiority over its adversaries, allowing Russia to seize the operational initiative by disrupting adversary C4ISR capabilities. Russia has fielded a wide range of ground-based EW systems to counter GPS, tactical communications, SATCOM, and radars.[446] Mobile jammers target radar and communications satellites. Russia has developed and fielded a full spectrum of EW capabilities with mobility, automation, and performance improvements able to counter Western space-enabled C4ISR and weapons guidance systems.[447,448,449]

In February 2020, Russian military officials confirmed that Russia is actively employing EW capabilities in Syria to counter GPS-enabled capabilities such as drones.[450,451,452]

Image Source: Russia Ministry of Defense/Creative Commons 4.0 Copyright

Russia has invested heavily in developing sophisticated EW capabilities, including this Krashuka-4 jammer.

Cyberthreats

Since at least 2010, the Russian military has placed a priority on the development of forces and capabilities, including cyberspace operations, for what it

terms "information confrontation"—a holistic concept for ensuring information superiority. The weaponization of information is a critical aspect of this strategy and is employed in times of peace, crisis, and war. Russia considers the information sphere, especially space-enabled information collection and transmission, to be strategically decisive and has taken steps to modernize its military's information attack and defense organizations and capabilities.[453]

Directed Energy Weapons

Directed energy weapons pose a direct threat to space operations. Russia has several ground-based lasers, for example, that can blind satellite sensors.[454] By July 2018, Russia began delivering the Peresvet laser weapon system to its Aerospace Forces. Russian leaders indicate that Peresvet has an ASAT mission. In public statements, Russian President Vladimir Putin called it a "new type of strategic weapon," and the Russian Defense Ministry asserted that it is capable of "fighting satellites in orbit."[455,456,457,458] In December 2019, Russian Defense Minister Sergey Shoygu stated that this laser weapon has been deployed to five strategic missile divisions.[459,460,461] Additional press reporting indicates that the ground-mobile Peresvet laser system is designed to blind enemy optical tracking systems, including those on satellites, with its laser.[462,463] The system is meant to mask the movement of strategic missile systems, according to Moscow Interfax.[464] Russia probably will field lasers that are more capable of damaging satellites in the mid-to-late 2020s.[465] By 2030, Russia may also field higher power systems that extend the threat to the structures of all satellites, not just electro-optical ISR.[466]

ASAT Missile Threats

Russia is also developing ASAT missile systems. These missiles can destroy U.S. and allied space systems in LEO, threatening ISR and communications satellites. Russia is developing and testing a mobile missile defense complex referred to as Nudol, which Russian sources describe as capable of destroying ballistic missiles and low-orbiting satellites.[467,468,469,470,471,472] Although Russia publicly describes Nudol as a ballistic missile defense system, it has an inherent counterspace capability. Deputy Prime Minister, then Deputy Defense Minister, Yuri Borisov remarked in 2018 that Nudol is a "counterspace attack complex" for the Russian military.[473] This weapon system—most recently-tested in November 2021—created over 1,500 pieces of trackable space debris and tens of thousands of pieces of lethal but nontrackable debris. This debris endangers spacecraft of all nations in LEO, including astronauts and cosmonauts on the ISS and China's Tiangong space station. With this test, Russia demonstrated the capability of the missile to destroy satellites in LEO.[474,475]

Image Source: SPUTNIK/AFP

Russian Peresvet laser weapon probably is intended for use against satellites (July 2018).

Image Source: The Space Review (Alex Snow)

MiG-31BM taking off from Zhukovskiy with potential Burevestnik ASAT missile.

a The name Burevestnik is also associated with a Russian developmental nuclear-powered cruise missile. [Source: National Air and Space Intelligence Center; 2020; 2020 Ballistic and Cruise Missile Threat Report*; p.36.]*

Russia is reportedly developing an air launched ASAT weapon called Burevestnik[a], targeting spacecraft in LEO. This system is based on the Soviet-era system called "Contact" that was designed for launching an ASAT missile from a MiG-31 fighter aircraft.[476,477] In September 2018, a MiG-31 was photographed in flight at the Zhukovskiy aircraft test site near Moscow carrying a large missile that could be related to air-launched ASAT weapon testing.[478] An Aerospace Forces squadron commander remarked that Russia would deploy an ASAT weapon on a MiG-31 ballistic missile "capable of destroying targets in near-space."[479]

Orbital Threats

In 2020, Russia tested a space-based ASAT weapon and continues to research and develop sophisticated orbital capabilities that could serve dual-use purposes. For example, inspection and servicing satellites can closely approach satellites to inspect and repair malfunctions; this same technology could also be used to conduct an attack on other countries' satellites, resulting in temporary or permanent damage.[480]

In 2017, Russia deployed what it described as an "inspector satellite capable of diagnosing the technical condition of a Russian satellite from the closest possible distance," possibly as part of its Nivelir program. However, the satellite's behavior has been inconsistent with on-orbit inspection or SSA activities.[481,482,483] In November 2019, Russia deployed two satellites, Cosmos 2542 and 2543.[484,485] After the launch, one of the satellites appeared to begin following a U.S. national security satellite, approaching close enough to create potentially dangerous operating conditions.[486,487,488] In July 2020, Russia ejected an object into orbit from Cosmos 2543 near another Russian satellite in a test of a space-based ASAT weapon.[489,490] Additionally, Cosmos 2504 and Cosmos 2536 are prototype Russian ASAT weapons that could kinetically kill satellites in LEO.[491]

According to Russian press reporting, Roscosmos is creating a satellite intended for GEO operations, which will have orbital servicing capabilities. The same report also recognizes the ASAT capabilities of servicing satellites in all orbits.[492]

EMERGING CHALLENGES

Iran

Image Source: IRNA

On 22 April 2020, Iran's Islamic Revolutionary Guard Corps-Aerospace Force (IRGC-ASF) successfully launched the Ghased SLV, placing the Noor-1 satellite into LEO.[493]

Iran's pursuit of a national space program supports both its civilian and military goals, including boosting national pride, economic development, and military modernization.[494,495,496] Tehran states it has developed sophisticated capabilities, including SLVs as well as communications and remote-sensing satellites;[497] however, its SLVs are only able to launch small satellites into LEO and have proven unreliable.

The Iranian Space Agency (ISA) and Iranian Space Research Center (ISRC)—subordinate to the Ministry of Information and Communications Technology—along with the Ministry of Defense and Armed Forces Logistics (MODAFL) oversee part of the country's satellite development programs.[498,499] ISA and ISRC work with Iranian universities, private industry, and foreign partners to develop satellites to test communications and remote-sensing technologies.[500,501,502] However, Iran's limited space launch capacity has led to a significant backlog of built-but-unlaunched satellites.[503]

To ensure access to space-based ISR, Iran's Project 505 is probably an attempt to buy an ISR system from Russia that started in August 2015; however, this system is not yet in orbit.[504,505] A Russian aerospace company, NPK Barl, and the All-Russian Scientific Research Institute of Electromechanics would provide the ground system and the satellite respectively which would be operated by the Iranian state-run trade company, Bonyan Danesh Shargh.[506,507]

MODAFL and the IRGC-ASF oversee Iran's SLV development programs. MODAFL's first launch attempt, the two-stage Safir SLV in 2008,[508] was followed by four successful launches, numerous failures, and retirement in 2020.[509,510]

In 2016, MODAFL tested the larger liquid-fueled Simorgh SLV, and as of March 2020, MODAFL planned to use the Simorgh's technologies to develop other larger more capa-

ble SLVs, including the Sarir and Soroush.[511] Iran conducted launches of the IRGC-ASF–developed hybrid liquid- and solid-fueled Ghased SLV in 2020 and 2022.[512] The IRGC-ASF subsequently announced its intent to continue SLV development, including a future SLV with GEO launch capability.[513,514,515,516,517,518,519] Iran has also revealed plans for a larger four-stage Ghaem SLV, which could serve as a test bed for developing ICBM technologies. Because of inherent overlapping technology between ICBMs and SLVs, some Western analysts are concerned that Iran's development of booster technology for larger, more capable SLVs will improve Iran's ICBM potential.[520,521,522,523] On 12 June 2021, Iran launched an unknown SLV and was preparing a second SLV for launch in late-June.[524]

Iran recognizes the strategic value of space and counterspace capabilities and will attempt to deny an adversary use of space during a conflict.[525] Tehran has publicly acknowledged it has developed capabilities to jam space-based communications and GPS signals.[526,527,528] Iran may also contribute to the proliferation of such jamming equipment. Since 2010, state-owned Iran Electronics Industries has marketed several GPS jammers on its website.[529] Advancements in SLV technology could also be applied to developing a basic ground-based ASAT missile, if Iran chooses to do so in the future.[530,531,532,533]

Iran has improved its domestic space domain awareness capabilities, establishing its first space-monitoring center in 2013.[534] In 2005, Iran joined China-led APSCO to access SSA from other countries and hopes to expand its cooperation with the organization.[535,536,537,538]

North Korea

North Korea's space program is administered by a state-run civilian agency, the National Aerospace Development Administration.[539] North Korea's space launch complex on the west coast, Sohae Satellite Launching Station, and associated space

Image Source: KCTV

Launch of Unha-3 SLV.[540]

tracking facilities in Pyongyang supported satellite launch cycles in 2012 and 2016. In January 2021, North Korean leader Kim Jong Un announced that Pyongyang—in an attempt to secure its own space-based reconnaissance capability—had completed its design of a satellite and will launch it in the near future. Kim Jong Un emphasized that North Korea is undertaking, "full scale work," toward space capabilities, suggesting development of new or modified SLVs or a satellite intended for operational use.[541,542] An older space launch site on the east coast, Tonghae, has not been used for a launch since 2009.[543,544] North Korea has demonstrated

nonkinetic counterspace capabilities, including GPS and SATCOM jamming, and probably intends to deny space-based navigation and communications during a conflict.[545,546,547]

In 2020, North Korean actors conducted numerous cyberoperations against our foreign partners' defense industries and attempted to compromise various U.S. Government networks.[548] Multiple North Korean hacker groups have targeted the aerospace industries potentially including space technologies.[549,550,551] This activity, if left unchecked, could enable North Korea's weapons and space system development and procurement programs.[552,553,554,555,556]

North Korea's ballistic missiles and SLVs, such as the Unha-3 SLV, in theory could be used to target satellites in a conflict.[557] North Korea has placed two satellites in orbit and has articulated further space ambitions. Its space program has also enabled testing of technology used in ballistic missiles under the guise of peaceful use of space.[558,559,560] These systems provided North Korea with valuable data applicable to the development of long-range and multistage ballistic missiles.[561]

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KEY SPACE ISSUES THROUGH 2030 AND BEYOND

Growth of Reusable Space Technology: Commercial Opportunities and Military Advantage

Access to space has traditionally required the use of expendable spacecraft: single-use launch vehicles, satellites, and capsules that are designed to maximize performance and then be discarded. Reliance on expendable vehicles has made access to space expensive and exclusive. Reusable technologies, while even more difficult and expensive to develop and build, stand to greatly reduce the cost of spaceflight by recovering, refurbishing, and reusing rocket stages, fairings, and capsules. Foreign nations increasingly seek to repeat U.S. successes in reusable technologies by developing their own reusable SLVs (R-SLVs) and spacecraft.

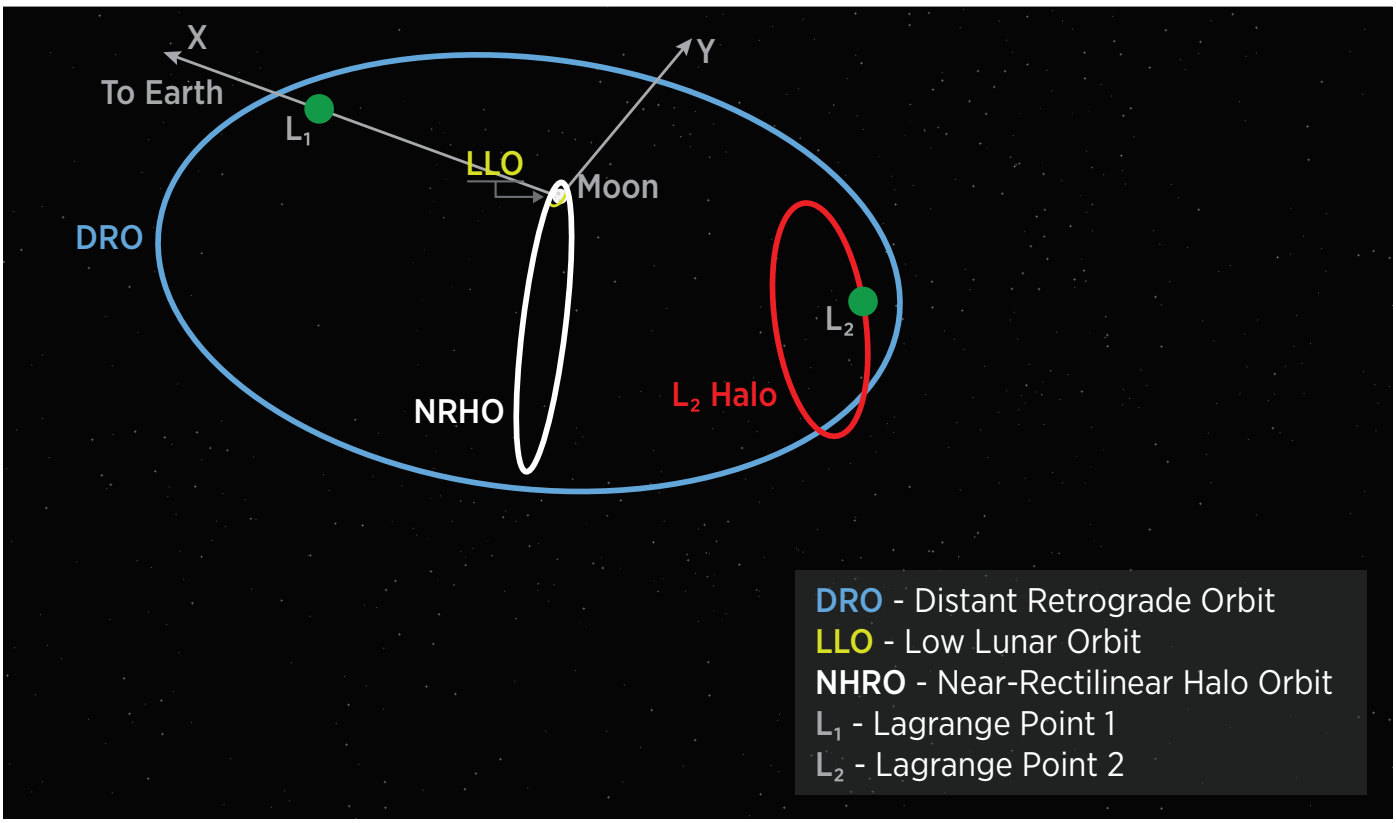
The state-owned enterprise, China Academy of Launch Vehicle Technology, modified the LM-8—launched for the first time on 22 December 2020—into an R-SLV.[562] The Chinese company, i-Space, plans to launch the country's first commercially developed R-SLV, called Hyperbola-2, in late-2021, but a Hyperbola-1 failure probably delayed that launch.[563,564] China is also developing two partially reusable capsules: the New-Generation Manned Spaceship intended to replace the Shenzhou capsule, and the New-Generation Reusable Recoverable Satellite as an inexpensive platform for microgravity experiments and rapid space equipment testing.[565,566]

In 2019, the chief designer for NPO Energomash, one of Russia's rocket propulsion companies, said that the company is moving forward with a proposal to create an R-SLV.[567] NPO Energomash has also stated that it hopes to modify its successful RD-180 engine to be reusable as many as 10 times.[568] Another Russian space corporation, Myasishchev, is designing an R-SLV first-stage that will return to its launch center after second stage separation.[569]

Space planes are another form of reusable technology. Space planes also feature enhanced maneuverability, making them uniquely suitable for certain missions as compared with traditional satellites. Developing a space plane requires overcoming the obstacles of hypersonic flight, a rarified atmospheric environment, and extreme external heating. China has developed hypersonic glide vehicles for ballistic missile warhead delivery probably enabling further achievements in space application.[570] China is developing the Shenlong and Tengyun space planes. In 2020, China launched into orbit its first-ever prototype of a space plane, which stayed in orbit for 2 days before returning to Earth. Beijing stated its space plane was testing reusable spacecraft technologies as part of advancing the peaceful use of space.[571,572] The Shenlong program previously conducted a drop test as early as 2011, and Tengyun has only completed a model wind tunnel test.[573,574] Russia announced multiple space plane projects during the past two decades, but it has made no serious progress following the one and only flight of Buran, a copy of the U.S. Space Shuttle, in 1988.[575,576,577,578]

Reusable spaceflight technology will also enable the commercial space tourism industry, both for suborbital and orbital flight. The cost savings provided by

Cislunar Chart



Most satellites operate in orbits near Earth to provide services for users on the ground. Satellite orbits are selected to best serve their application, for example, satellites that are required to remain over a single region on Earth are placed in GEO. Satellites will be placed in various cislunar orbits in the near future. In addition to direct orbits around the Moon, there are other points in the Earth-Moon system that are useful for satellite operations. Lagrange points are stable positions in space between two celestial bodies. Gravitational pull equals the centripetal force required for a smaller object to orbit there, and subsequently reduces fuel requirements to remain in these positions. L1 and L2—between the Moon and Earth and the far side of the Moon respectively—are depicted here. There are three other Lagrange points associated with the Earth-Moon system, L3-L5.[579]

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reusable technology will be key for lowering ticket prices and widening the market. British, Japanese, and Russian firms are among those developing tourist spacecraft.[580,581]

Human Spaceflight and Cislunar Operations

Human spaceflight and space operations of most types to and beyond the moon will very likely increase in the future. Threats to U.S. and allied military space capabilities will persist as humanity expands its reach into space. Nations are motivated to pursue new scientific missions, compete for military advantage, expand communications and data processing, and obtain greater national and international prestige. Economic competition to exploit the potentially large amount of natural resources on the Moon, Mars, or even asteroids, while a nascent endeavor today, will become a driver for more space-capable states or consortiums in the future.

Space exploration initiatives are also opportunities for many nations to cooperate and benefit from scientific discoveries and technological innovation. This trend will expand and feed the presence of nations beyond Earth orbit on a level greater than that already demonstrated by the operation of interplanetary probes to date.

During the past two decades, foreign competitors have looked to lunar missions as major demonstrations of technological sophistication and national strength. Other nations have been involved in human spaceflight—more than 40 nations have orbited astronauts with Russian or U.S. human spaceflight missions.[582,583] Many nations have contributed to the scientific knowledge of Earth with deep-space probes and missions to the Moon and Mars.[584,585,586]

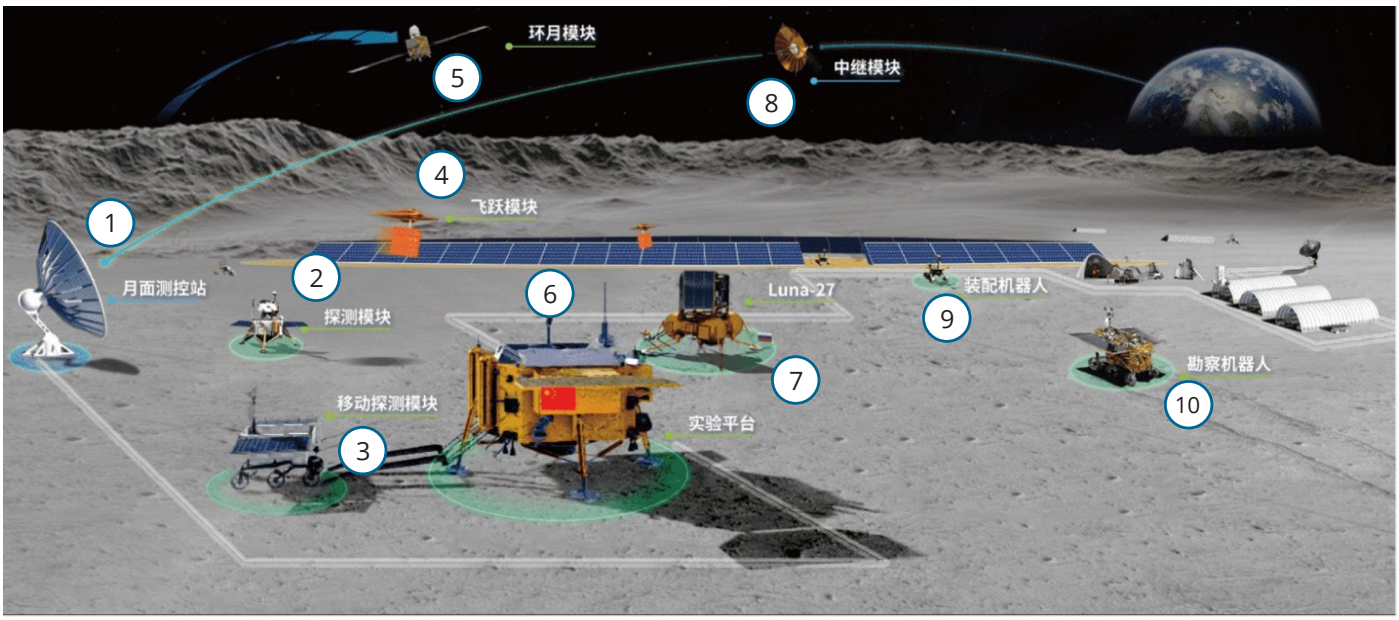


Image Source: China National Space Administration (CNSA)

A China National Space Agency graphic depicting the Proposed Chinese-Russian International Lunar Research Station. The individual elements are ❶ lunar surface tracking & command station; ❷ survey module; ❸ mobile survey module; ❹ leaping module; ❺ lunar orbit module; ❻ test platform; ❼ Russia's Luna-27; ❽ relay module; ❾ assembly robot; and ❿ reconnaissance robot.

New Competition for Space Beyond Earth's Orbit

Deep-space operations beyond Earth orbit, sometimes called xGEO,[587] are focused on scientific missions and exploration of the Moon and other celestial bodies. Spacecraft in xGEO are much harder to track and characterize, and could threaten U.S. or allied high-value satellites.[588] Adversaries could also place operational or reserve satellites in deep space so they are much harder to monitor for later use in lower orbits.[589]

Challenge to Space Operations: Debris and Orbital Collisions

The probability of collision between massive derelict objects in LEO is rising and almost certainly will continue to rise until at least 2030 as a result of fragmentation events such as collisions or battery explosions, ASAT testing, and a rapidly increasing number of space launches worldwide.[590,591,592,593,594,595] The collision risk is to all civilian, commercial, and government satellites of all nations. This adds to the difficulty of ensuring safe space operations and the overall stability of the space environment.

Debris in Orbit. Collisions between and explosions of massive derelict objects almost certainly will continue to add to the amount of space debris in orbit. As of January 2022, more than 25,000 objects of at least 10 centimeters in size were tracked and cataloged in Earth's orbit to include active satellites.[596,597] The primary risk to spacecraft in orbit is from uncataloged lethal nontrackable debris (LNT), which are objects between 5 millimeters and 10 centimeters in size. An estimated 600,000 to 900,000 pieces of uncataloged LNT are in LEO.[598]

Prior to 2007, most debris came from explosions of upper stages of SLVs. Today, nearly one-half of all cataloged debris are fragments from three major events: China's destruction of its own defunct weather satellite in 2007, the accidental collision between a U.S. communications satellite and a dead Russian satellite in 2009, and the 2021 Russian Nudol ASAT test.[599,600]

Threats of Massive Object Collision. Of the cataloged objects, there are nearly 1,300 massive—greater than the size and weight of an automobile—derelict objects in LEO that pose a unique threat to LEO space operations. These objects approach each other within 5 kilometers daily, some passing well within 1 kilometer monthly, at 10–15 kilometers per second.[601]

Computer rendering of tracked objects greater than 10 centimeters in Earth's orbit. Red, yellow, and green objects are representations of active satellites in the GEO orbital belt and in MEO. [Note: The objects are not drawn to scale; the objects are approximately 10,000 times greater than actual size.]

Massive Derelict Cluster Collision Probabilities

Cluster*	In-Cluster P_C** (Per Year)	In-Cluster P_C Increase by 2030	No. of Likely Catalogued Fragments	LNT Likely Produced	Comments
C615	~1/280	5–7%	~5,500	~80,000	Short-lived debris (years to decades). Near many satellites.
C775	~1/715	2–3%	~4,500	~70,000	Moderate-lived debris (decades). Near many satellites.
C850	~1/800	8–15%	~15,000	~225,000	Long-lived debris (many decades). Fewer satellites than C775 or C615.
C975	~1/120	16–26%	~3,500	~55,000	
C1,500	~1/5,000	~1%	~6,000	~75,000	Very long-lived debris (many centuries). Not near many satellites

** Cluster number represents orbital radius to the center of the cluster in kilometers, for example C850 is centered at 850 kilometers in altitude*
*** P_C is probability of collision*

A collision between these objects almost certainly would create 3,500–15,000 cataloged fragments and 55,000–225,000 LNT fragments, whereas a typical satellite breakup generally creates about 250 pieces of cataloged debris.[602] The annual probability of collision for massive derelict objects clustered at 1,500 kilometers is 1 in 5,000 and for separate cluster objects at 850 kilometers in altitude is 1 in 800. Although the debris contribution for a collision at 850 kilometers would nearly double the LEO catalog population (i.e., generate ~15,000 trackable fragments), the debris from a collision at 1,500 kilometers would remain in orbit potentially for thousands of years.

Threats Posed by Debris. Space debris can cause damage and destruction to satellites and crewed spacecraft, as well as increase costs if satellite manufacturers add additional shielding to withstand small fragment impacts and fuel to allow for more frequent avoidance maneuvers. The cost of any maneuvers increases fuel usage, adds to operational complexity and expense, and shortens spacecraft lifetimes which may require more space launches to maintain the same level of capability. Between 1998 and 2022, the ISS, in LEO, maneuvered at least 30 times to avoid potential collisions with orbital debris.[603] With an expected increase in large constellations of satellites and space debris, there is higher potential for satellite collisions, particularly in LEO.[604]

Orbital Lifetime of Debris. The time that debris remains in orbit depends largely on its size and altitude— the smaller objects are and the higher they orbit, the longer they remain in space. Fragments

from explosions and collisions will tend to be smaller and exist in lower orbits, and therefore, will have shorter orbital lifetimes than abandoned payloads and rocket bodies. Atmospheric drag acts as a natural cleaner by causing most debris at lower altitudes to reenter Earth's atmosphere and burn up. Some intact objects at 500 kilometers can remain in orbit for about 10 years. As the altitude gets closer to 1,500 kilometers, derelicts and debris can remain for more than 10,000 years.[605]

Orbital collisions tend to occur at high relative velocities (i.e., greater than 25,000 miles per hour in LEO and disperse fragments into many different orbital altitudes). A collision of two objects at 975 kilometers—the most likely of the collision probabilities at about 1 in 120 chance per year—would leave many fragments in orbit for more than a thousand years.[606]

Postmission Disposal (PMD). In 1993, the United States set debris guidelines for space operators, which were adopted by many nations and the UN-affiliated Inter-Agency Space Debris Coordination Committee. In LEO, all objects were to be placed in orbits allowing for their eventual decay within 25 years of the end of mission. The usual PMD maneuver placed objects at or below 650 kilometers.[607] However, even if international and national guidelines were made legally binding, mitigation thresholds were made more stringent, or if compliance were even close to 100 percent; there would still be a formidable debris problem from the remnants of the first 63 years of space operations.[608,609] While U.S. compliance is higher, current worldwide compliance with this guideline is well under 50 percent. The increase in the number of objects in orbit has implications for policymakers worldwide and is encouraging the development of space debris remediation technology.

OUTLOOK

The advantages space provides will drive some nations to improve their ability to access and operate in space. Additionally, some nations will pursue new and improved counterspace capabilities to target the perceived U.S. and allied reliance on space-based assets.

Space services will continue to proliferate worldwide as technological and cost barriers fall and international partnerships for space support increase. State, non-state, and commercial actors will increasingly gain access to data and services emanating from space.[610,611] The number of space launch companies and satellite service providers will expand at least through 2025. And with more groups—commercial, academic, and even private—now able to reach orbit, the growth of satellites and debris in space is expected to increase. This growth of orbital objects will drive a need for more satellite tracking—commercial and government—to help distinguish threats from nonthreats, and to predict and prevent collisions which will prove to be an even greater task.[612,613]

China and Russia value superiority in space. As a result, they will seek ways to strengthen their space and counterspace programs, and determine ways to better integrate them into their respective militaries. Both nations are also seeking to broaden their space exploration initiatives—together and individually—outside Earth's orbit with plans to explore the Moon and Mars during the next 30 years. Lunar exploration by China and Russia aims to expand their scientific knowledge and prestige. If successful, it will likely lead to attempts by China and Russia to exploit the Moon's natural resources.

Iran and North Korea will focus on increasing their capabilities in the civil and military domains to counter space-based services such as communications and navigation.[614] Both will maintain their ability to conduct EW against adversaries and theoretically could use their missile and SLV advancements to target orbiting satellites.

The combination of increasing counterspace capabilities—especially those of China and Russia—a general growth in numbers of space objects, and the proliferation of requirements for space-enabled services will make space an increasingly competitive and crowded environment for the foreseeable future.

As the number of spacefaring nations grows and space and counterspace capabilities become more integrated into military operations, the U.S space posture will be increasingly challenged and on orbit assets will face new risks.

Deep space operations will pose potential challenges to space assets due to the inherent difficulty in tracking and monitoring spacecraft at distances beyond GEO.[615,616] Moreover, the growing incorporation of dual-use technology will continue as the development and testing of government and commercial satellite servicing spacecraft increases—some with potential counterspace capabilities.[617]

APPENDIX: Space and Counterspace Concepts

Satellite C2 Architecture

Satellite C2 architecture uses TT&C to communicate with and control satellites. The control center uses an uplink to deliver commands to a spacecraft. The spacecraft sends data via a downlink to a ground station with the necessary antennas, transmitters, and receivers to receive the data. Some satellite constellations use relay satellites, which enable communication between satellites outside the reception area of a ground station.[618] Any component of the architecture is vulnerable to attack, ranging from physical vulnerabilities of a ground site to EW disrupting the connection between the space segment and the operator.

Remote Sensing

Remote sensing—generally called ISR—satellites collect images, electronic emissions, and other data of the Earth's land, sea, and atmosphere. Civilian and commercial applications are used for activities such as environmental monitoring, urban planning, and disaster response.

High demand for this data and falling costs for capable technology have spurred the rapid growth and proliferation of these satellites. A decade ago, foreign ISR satellites numbered nearly 100, and by January 2022, that number reached more than 550. ISR satellites support a variety of military activities by providing signals intelligence, enabling battle damage assessments, and assisting military operations.[619,620] They have reduced the ability of all countries to perform sensitive military activities undetected.

Some countries' militaries use space-based ISR. For example, militaries use space-based sensors to augment terrestrial platforms as part of their missile attack warning networks and can enable defensive or offensive operations in response. Space-based sensors usually provide the first indication of a missile launch, and ground-based radars provide follow-on information and confirm the attack.

Satellite Communications

Global communications networks rely on communications satellites for worldwide voice communications, television broadcasts, broadband Internet, mobile services, and data transfer for civilian, military, and commercial users worldwide. SATCOM systems are rapidly deployable, expandable, and increasingly affordable as the demand for services continues to rise globally.[621]

Today, most communications satellites operate in GEO more than 36,000 kilometers above the Earth. This distance provides wider coverage of the globe with fewer satellites; however, it is more expensive to place satellites in orbit at this distance. To reduce cost and gain new markets, SATCOM service providers have proposed future constellations with tens of thousands of satellites in low and medium altitude LEO.[622] Better technology promises greater affordability, efficiency, and flexibility for civilian government, and military users worldwide.

Satellite Positioning, Navigation, and Timing

Satellite navigation constellations provide PNT data that enable civilian, commercial, and military users to determine their precise location and local time.[623] Satellite navigation services—with applications in navigation, munitions guidance, communications, agriculture, banking, and power supply—are critical

to military and civilian users worldwide.[624] Advances in satellite navigation technology offer foreign countries improved military situational awareness and accuracy in precision-guided munitions.[625]

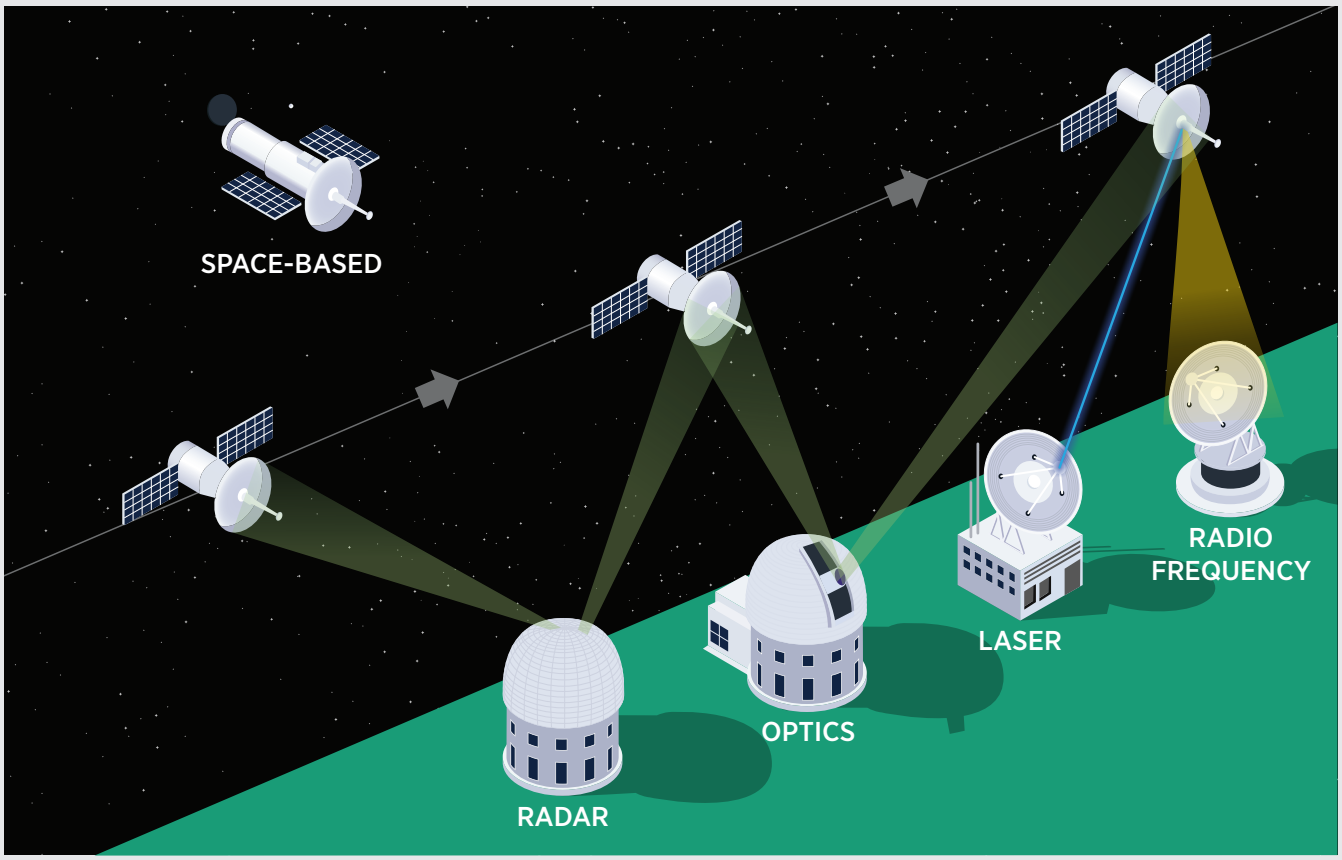
The 1991 Gulf War and subsequent U.S. military operations illustrated the value of the U.S. GPS satellite navigation system for troop movement, force tracking, and precision munition delivery.[626] This prompted other countries to develop their own satellite navigation systems. Today, satellite navigation constellations of China, Russia, the European Union and the United States offer global coverage, and Japan and India operate regional systems.[627,628,629] The rise of foreign satellite navigation services reduces dependence on GPS and provides worldwide users multiple satellite navigation options.[630,631,632]

Space Launch Capabilities

Space launch is the ability to deliver payloads into space. SLVs place satellites in orbit to deploy, sustain, augment, or reconstitute constellations in support of military, civilian, or commercial customers.[633]

Many countries developed space launch capabilities to compete in the international market or to advance national security strategies that require domestic access to space. Many commercial entities are attempting to enter the launch industry with the assistance of a state with established launch capabilities. Some commercial entities are independently developing space launch means.

Space Situational Awareness

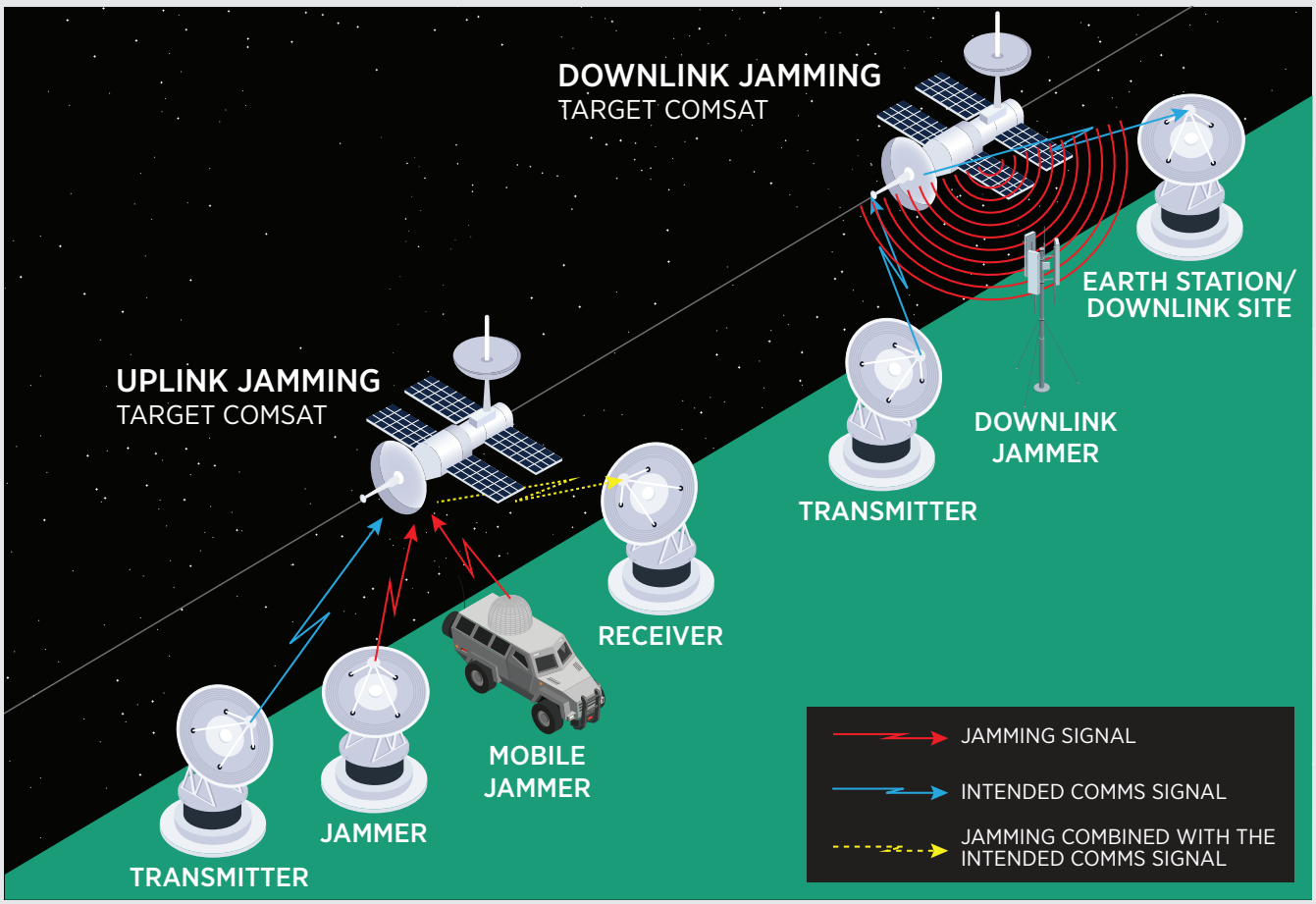


Space situational awareness (SSA) is the detection and characterization of a space object, including its location, and the ability to track it, identify it, and predict its future location.[634] Terrestrial and space-based sensors search the sky for foreign satellites and record their orbits, allowing for the prediction of their orbits and determination of the object's function and operational status. This continuous process is the first in a sequence of steps that potential adversaries will use to target satellites, attack space assets with counterspace weapons, and assess the effectiveness of those attacks. Countries without advanced space tracking sensors can attain basic SSA by purchasing commercially available data.

Cyberthreats to Space Systems[635]

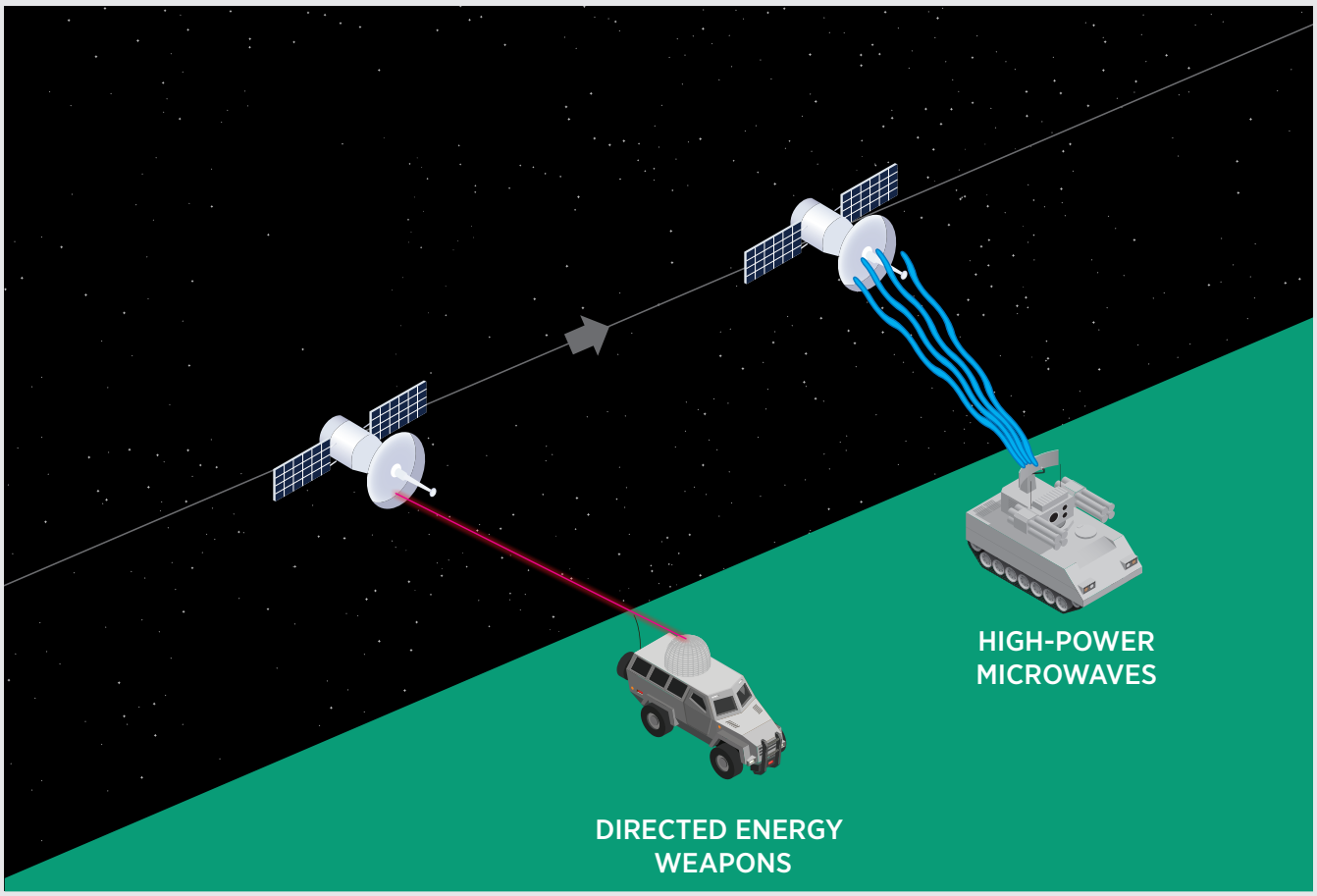
With sophisticated knowledge of satellite C2 and data distribution networks, actors can use offensive cyberspace capabilities to enable a range of reversible to nonreversible effects against space systems, associated ground infrastructure, users, and the links connecting them. Satellite command and data distribution networks expose space systems, ground infrastructure, users, and the links connecting these segments to cyber threats.

Electronic Warfare[636]



Foreign competitors are able to conduct electronic attacks to disrupt, deny, deceive, or degrade space services. Electronic warfare includes using jamming and spoofing techniques to control the electromagnetic spectrum. Jamming prevents users from receiving intended signals and can be accomplished by two primary methods: uplink jamming and downlink jamming. Uplink jamming is directed toward the satellite and impairs services for all users in the satellite reception area. Downlink jamming has a localized effect because it is directed at ground users, such as a ground forces unit using satellite navigation to determine their location. Spoofing deceives the receiver by introducing a fake signal with erroneous information. EW can be challenging to attribute and distinguish from unintentional interference.

Directed-Energy Weapons



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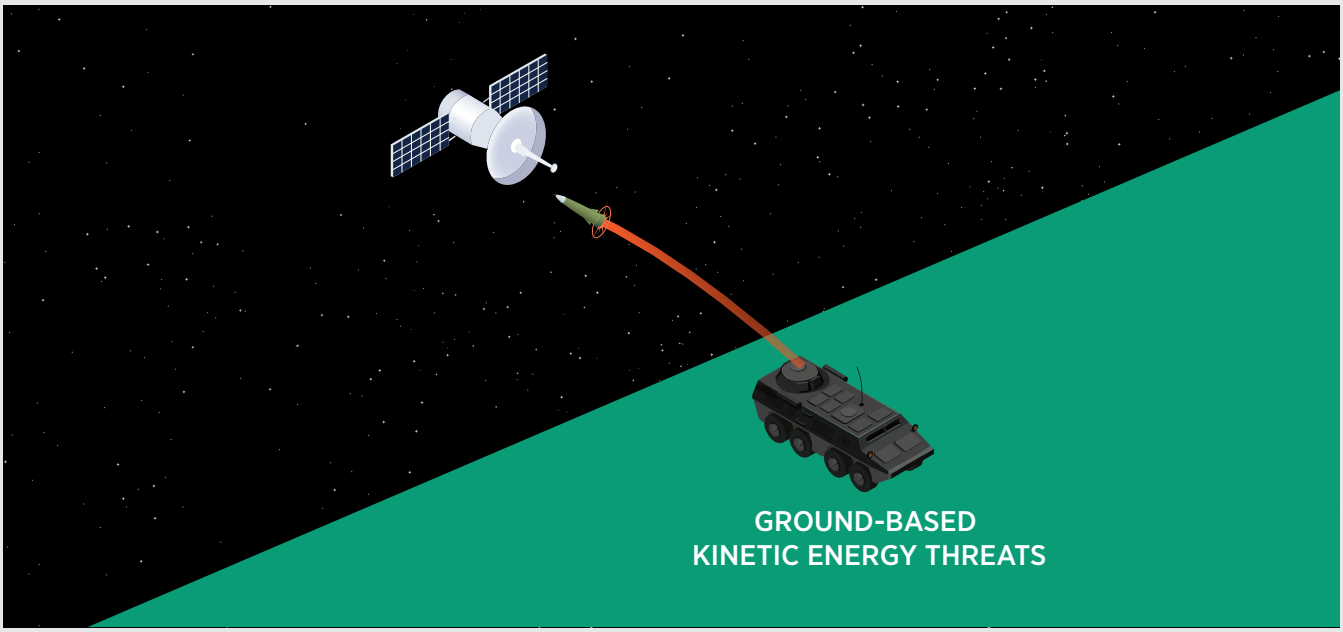
Directed energy weapons are designed to produce reversible or nonreversible effects against space systems to disrupt, damage, or destroy enemy equipment and facilities.[637] Directed energy weapons systems include lasers, high-power microwave weapons, and other types of radiofrequency weapons. Reversible effects include temporarily blinding optical sensors to deny imagery of targeted military forces. Nonreversible effects include permanently damaging or destroying sensors or other satellite components, which causes the operators to lose data and time and face the burdens of replacement or reliance on lesser assets.

Ground-Based ASAT Missiles



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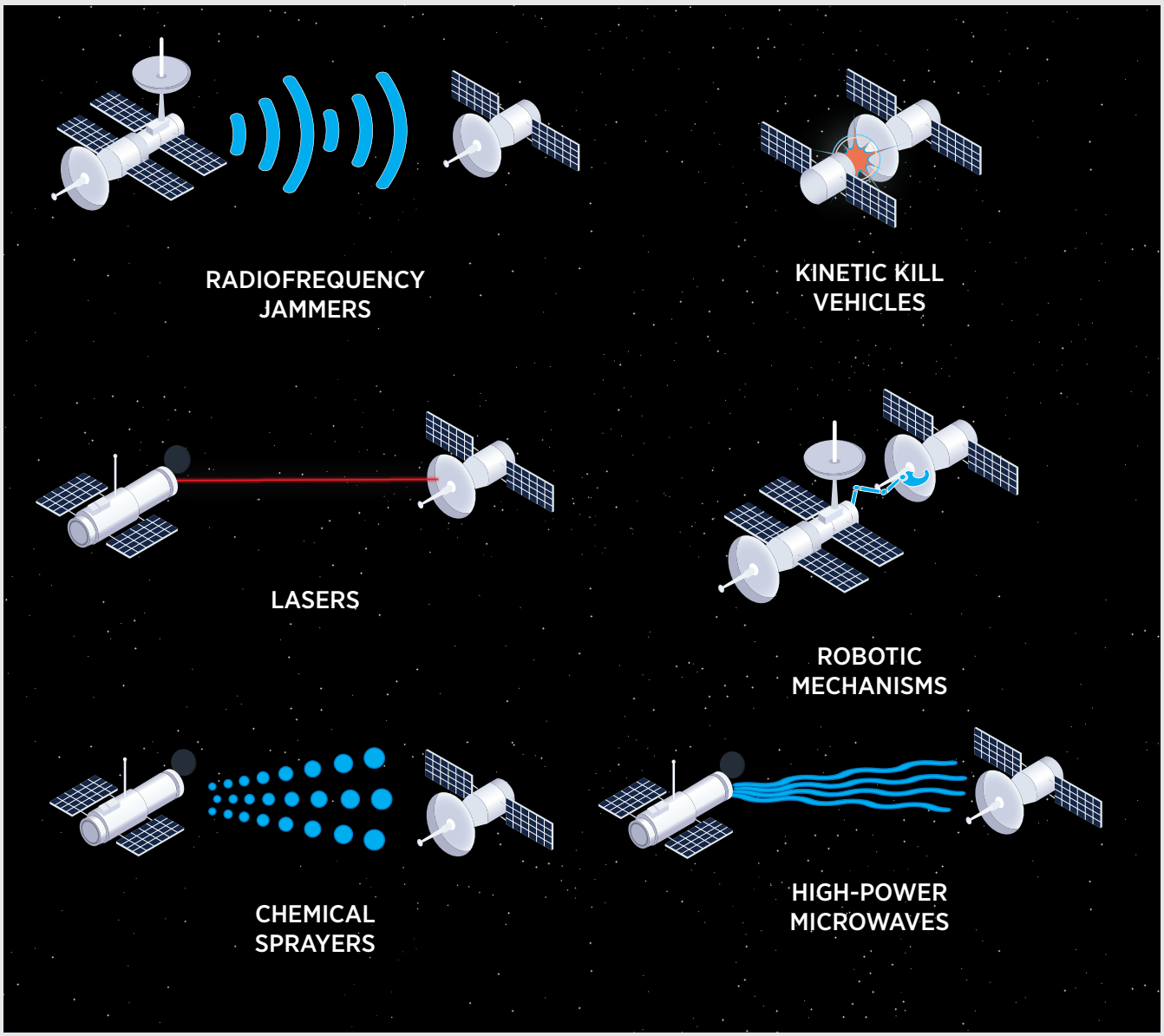
Antisatellite missiles are designed to destroy satellites without placing the weapon system or any of its components into orbit. These systems typically consist of a fixed- or mobile-launch system, a missile, and a kinetic kill vehicle. These weapons could also be launched from aircraft or ships at sea. Once released, the kinetic kill vehicle uses an onboard seeker to intercept the target satellite. Ground-based ASAT missile attacks are more easily attributed than other counterspace weapons because launches are detectable, and their effects can create orbital debris.

Space-based Weapons



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Orbital or space-based weapons are satellites that can attack other spacecraft, delivering temporary or permanent damage. These systems can include radiofrequency jammers, kinetic kill vehicles, lasers, robotic mechanisms, chemical sprayers, and high-power microwaves. Some of these systems—such as robotic technology for satellite servicing and repair or space debris removal—have peaceful uses but can also be used in ASAT operations.

Glossary of Acronyms

AGM	missile range instrumentation ship	**ISS**	International Space Station
APOSOS	Asia-Pacific Ground-Based Optical Space Object Observation System	**KZ**	Kuaizhou
APSCO	Asia-Pacific Space Cooperation Organization	**LEO**	low Earth orbit
ASAT	antisatellite	**LM**	Long March
BACC	Beijing Aerospace Control Center	**LNT**	lethal nontrackable debris
BMEW	ballistic missile early warning	**MEO**	medium Earth orbit
C2	command and control	**MODAFL**	Ministry of Defense and Armed Forces Logistics
C4ISR	command, control, communications, computers, intelligence, surveillance, and reconnaissance	**NASA**	National Aeronautics and Space Administration
CLTC	China Launch and Tracking Control (PLA SSF SSD)	**NSD**	PLA SSF Network Systems Department
CNSA	China National Space Administration	**PLA**	People's Liberation Army
DEW	directed energy weapon	**PMD**	post-mission disposal
ESA	European Space Agency	**PNT**	positioning, navigation, and timing
EW	electronic warfare, also referred to as "electromagnetic warfare"	**QUESS**	Quantum Experimentation at Space Scale
GEO	geosynchronous Earth orbit	**SAR**	synthetic aperture radar
GLONASS	Global Navigation Satellite System	**SASTIND**	State Administration for Science, Technology, and Industry for National Defense
GPS	Global Positioning System	**SATCOM**	satellite communications
HEO	highly elliptical orbit	**SLV**	space launch vehicle
ICBM	intercontinental ballistic missile	**SSA**	space situational awareness
ILRS	International Lunar Research Station	**SSD**	PLA SSF Space Systems Department
IRGC-ASF	Islamic Revolutionary Guard Corps – Aerospace Force	**SSF**	PLA Strategic Support Force
ISA	Iranian Space Agency	**TT&C**	telemetry, tracking, and control
ISON	International Scientific Optical Network	**xGEO**	deep space orbits beyond 35,000 kilometers, but in the Earth-Moon system
ISR	intelligence, surveillance, and reconnaissance	**XSCC**	Xian Satellite Control Center
ISRC	Iranian Space Research Center		

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DEFENSE INTELLIGENCE AGENCY

CHINA VS. DEMOCRACY
THE GREATEST GAME

CHINA VS. DEMOCRACY
THE GREATEST GAME

A HANDBOOK FOR DEMOCRACIES

By Robin Shepherd, HFX Vice President

ABOUT HFX

HFX convenes the annual Halifax International Security Forum, the world's preeminent gathering for leaders committed to strengthening strategic cooperation among democracies.

The flagship meeting in Halifax, Nova Scotia brings together select leaders in politics, business, militaries, the media, and civil society.

HFX published this handbook for democracies in November 2020 to advance its global mission.

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First and foremost, HFX acknowledges the more than 250 experts it interviewed from around the world who helped to reappraise China and the challenge it poses to the world's democracies. Their willingness to share their expertise and varied opinions was invaluable. Of course, they bear no responsibility, individually or collectively, for this handbook's contents, which are entirely the work of HFX.

This project began as a series of meetings hosted by Baroness Neville-Jones at the U.K. House of Lords in London in 2019. At one of those meetings, Baroness Neville-Jones, who has been a stalwart friend and supporter since HFX began in 2009, pointedly declared that there was no common strategy among the world's democracies with regard to China, and that there ought to be one. This handbook seeks to contribute toward building that common strategy.

The handbook itself was authored by Robin Shepherd, HFX Vice President, in cooperation with a team of colleagues and collaborators including Paz Magat, Director of HFX's Peace With Women Fellowship, who led the research, Andrew Fishbein, HFX Head of Policy Relations, who coordinated the project, and Michael R. Auslin, the Payson J. Treat Distinguished Research Fellow in Contemporary Asia at the Hoover Institution and HFX's Senior Advisor for Asia, who provided general oversight. John Gans joined the team as editor of the handbook late in the process. HFX is grateful to John for his expert guidance and magnificent teamwork.

Many experts from around the world took the time to review drafts of this handbook. Steve Tsang, Director of the China Institute at the School of Oriental and African Studies (SOAS) in London, made several important suggestions to early versions of chapters one and two. Peter Hefele, Head of Department Asia and Pacific, and David Merkle, Desk Officer China, at Germany's Konrad-Adenauer-Stiftung made a number of very helpful suggestions. Ambassador Hemant Singh, Director General of the Delhi Policy Group (DPG), and Brigadier Arun Sahgal (retired), DPG Senior Fellow for Strategic and Regional Security, provided vital perspective from India. Ambassador Kenichiro Sasae, President of the Japan Institute of International Affairs, did the same from Japan. Roland Paris, Professor of International Affairs at the University of Ottawa, made several important suggestions from Canada. Admiral Mike Rogers (retired), former Director of the United States National Security Agency (NSA) and former Commander of U.S. Cyber Command, made similarly helpful comments; as did John Mullen, former Assistant Director of the CIA for East Asia & Pacific.

While this handbook benefited significantly from the observations of the above experts, none of them bears any responsibility for its shortcomings. Each has a unique view on China. Some of the differences between these views are significant while in other cases it is far more nuanced. In no sense should they be regarded as endorsing the handbook's contents or its conclusions.

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FOREWORD
PETER VAN PRAAGH

This is a handbook. It is a handbook about China for democracies. It is perhaps the first comprehensive compendium of vital information about the very serious and urgent test that now confronts the world's democracies. It delivers an overwhelming body of evidence to explain why people around the world, and their democratic governments, have, perhaps belatedly, woken up to the hard reality that Beijing is not our friend.

HFX spent the past decade calling attention to the challenge China poses through panel discussions at our annual Forum in Halifax. But it was not until 2020, with the emergence of the global coronavirus pandemic that began in Wuhan, China, and all the uncertainty that accompanied it, that people around the world began to understand the real threat—to our supply chains, to international organizations, to the open exchange of information, to the protection of confidential information, and to freedom of the seas and skies.

The 2020 paradigm shift in people's attitudes toward China was a concrete change from the old conventional wisdom that an economically vibrant China would progress toward more freedom for its people, to the new conventional wisdom that the Chinese Communist Party is, in fact, the virus that endangers the world.

Old conventional wisdom also suggested that if demography was indeed destiny, it was only a matter of time until China and its enormous population and economy exerted comprehensive global influence. The new conventional wisdom concludes that surrendering to this dark destiny is not an option.

Working in concert, the world's democracies have overwhelming advantages that China cannot meet. The challenge is no longer about trying to cooperate with a rising China governed by autocrats. The real China challenge for the world's democracies is how to cooperate effectively with each other.

Demand calls for a comprehensive global strategy among the world's democracies outlining what to do with regard to China, and how to do it. Before that strategy, however, there has to be common understanding of what confronts the democratic community of nations.

This handbook contributes to building that necessary common understanding.

Through conversations with more than 250 experts from around the world, including cabinet secretaries from the Clinton, Bush, and Obama administrations, HFX prepared an overwhelming case for increased cooperation.

For its part, this handbook concludes with a set of principles that HFX will be championing around the world. I respectfully invite you to join your voice with ours in defending the values that underpin our democratic societies.

Peter Van Praagh
President, HFX

"THE REAL CHINA CHALLENGE FOR THE WORLD'S DEMOCRACIES IS HOW TO COOPERATE EFFECTIVELY WITH EACH OTHER."

EXECUTIVE SUMMARY

The year 2020 witnessed a paradigm shift in the world's understanding of China. Democracies have acknowledged implicitly and explicitly that their approach to Beijing over the last three decades, and especially under the leadership of Xi Jinping, General Secretary of the Chinese Communist Party, amounted to a foreign policy miscalculation of historic proportions. The central error was the assumption that China would eventually liberalize, uphold the rules-based international order, and cooperate with the democratic world as it accrued the benefits of capitalist economics. Rather than moderate its behavior at home and abroad, however, modern-day China has emerged as the most powerful authoritarian state in history and the major challenger to the liberal world.

To help democracies move past these mistakes and rethink the challenge that China poses around the world, Halifax International Security Forum (HFX) conducted in-depth interviews with more than 250 global experts and policy- and decision-makers between February and October 2020. In addition, exclusive polling for HFX by Ipsos Public Affairs suggests that, following Beijing's censorship of the outbreak of COVID-19, China's favorability ratings among the global public, particularly in democracies, have plunged.

The key to understanding the nature of the China challenge is to recognize that Beijing's worldview is guided, above all else, by the interests of a Chinese Communist Party (CCP) that is Leninist to the core. Failure to internalize this central point will lead to misdiagnosing the challenge and result in continued policy mistakes.

All leading human rights organizations testify that oppression is intensifying in China, but it is clear that the CCP's ambitions do not stop at China's borders. The CCP's global ambitions are evident in several critical ways:

- The CCP aims to make the world as a whole safe for authoritarianism. Xi and the CCP have demonstrated this ambition in both word and deed, as a now overwhelming body of evidence amply demonstrates.

- Accordingly, the PRC is intent on undermining democracy abroad. While the CCP continues to target democracies such as the United States, Canada, Great Britain, Germany, India, Japan, and Australia, it is Hong Kong and Taiwan that stand on the frontline of the PRC's global assault on democracy; their very existence as democracies now hangs precariously in the balance.

- The CCP's global ambitions are undergirded by what is fast becoming the world's largest economy. In prosecuting these ambitions, the multi-trillion-dollar global infrastructure project known as the One Belt One Road Initiative is complemented by the use of major Chinese companies like Huawei, which are beholden to the CCP's interests and instructions.

- The CCP under Xi is committed to technological authoritarianism at home and abroad. China is aware of its current technological shortcomings. To overcome them, the CCP has carefully thought-out

plans, which include cyber espionage and the continued theft of intellectual property. China intends to emerge as the dominant tech power in the twenty-first century.

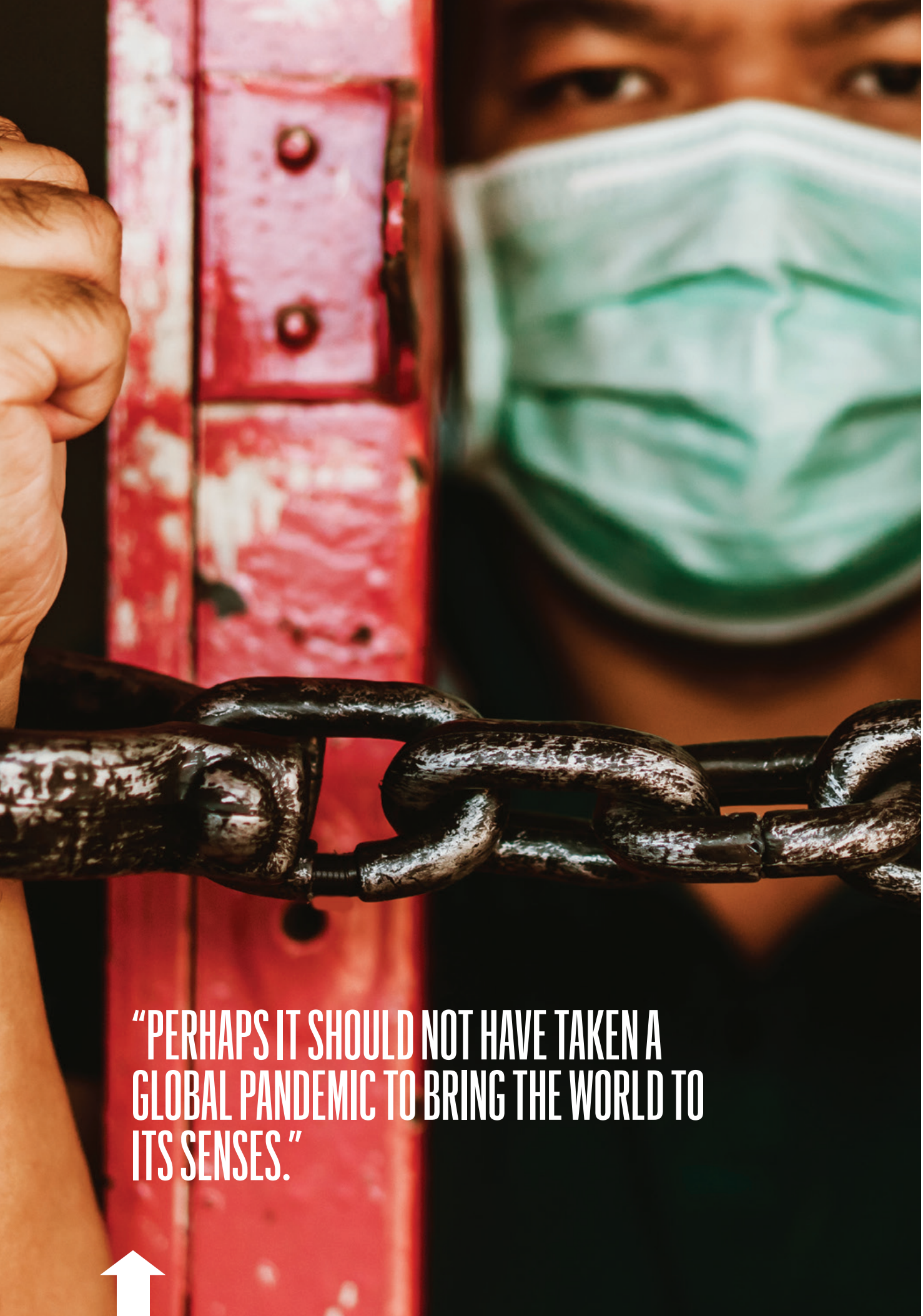
- The PRC has committed to modernizing its military while growing bolder and more assertive geostrategically—and not just in Asia. What may sometimes look like innocent and incremental steps risk developing into a pattern that, in a decade or two, could transform the balance of military power as well as the relevance of alliances and partnerships among democracies.

Now is the time to soberly rethink the democratic world's policy responses to the China challenge. Democracies must pursue a carefully considered yet robust push back— push back that Xi's China has brought upon itself. The CCP must recalibrate its global ambitions and back off from the ongoing assault on the world's democracies.

Neither the United States nor any other democracy is likely to successfully meet the challenge from the PRC by going it alone. The good news is that no country, including the United States, need go it alone.

The effective deployment of U.S. power, wealth and technological prowess in conjunction with its vast array of global allies, will ensure that China's ambitions can be kept in check. While the United States remains the free world's natural leader, alliances and partnerships among democracies will be different than those of the twentieth century. Reimagining democratic alliances that are fit for the twenty-first century is the most urgent task of the day.

"NOW IS THE TIME TO SOBERLY RETHINK THE DEMOCRATIC WORLD'S POLICY RESPONSES TO THE CHINA CHALLENGE."



"PERHAPS IT SHOULD NOT HAVE TAKEN A GLOBAL PANDEMIC TO BRING THE WORLD TO ITS SENSES."

INTRODUCTION
LOST IN TRANSLATION

In September 2005, then–U.S. Deputy Secretary of State Robert Zoellick traveled to New York to make a public address on relations between the United States and China. Four years after 9/11, the speech was designed to set the direction of U.S. policy toward a power whose rise the world was still coming to terms with. He famously urged Beijing to become "a responsible stakeholder" and looked forward to "the democratic China of tomorrow."[1] In one of modern diplomacy's more unfortunate lapses, it later emerged that Chinese interpreters at the gathering had struggled to find an appropriate rendition of the word "stakeholder." That the central assumption of the free world's policy stance toward China for most of the post-Cold War era may have been literally lost in translation is a piece of dramatic irony that would be difficult to invent.[2]

A decade and a half later, the world has received a message that needs no translating. The only stakeholder that Beijing is interested in accommodating is the Chinese Communist Party (CCP). Democratic China is a mirage. Though there were of course prescient thinkers who went against the grain of conventional wisdom, the harsh truth is that, collectively, we got China wrong.

The year 2020 is likely to be remembered not only for the coronavirus (COVID-19) but also for a paradigm shift in the world's attitudes to China. Beijing's role in concealing the reality of the former, of course, goes some way to explaining the emergence of the latter. There is now an uneasy but growing awareness that the open society perhaps faces its biggest challenger yet. China, led by Xi Jinping, is emerging as the most powerful authoritarian state in history. The evidence that it aims to make the wider world safe for authoritarianism has become impossible to ignore.

Perhaps it should not have taken a global pandemic to bring the world to its senses. But, finally, there has been an awakening. In the United States, there is growing bipartisan agreement that China is now a major challenger to the democratic world and its values.[3] Staunch, traditional American allies such as Canada and Great Britain show signs of the same awakening.[4,5] In the European Union (EU), there is a gathering consensus along similar lines.[6] India is now taking major steps to reconfigure policy toward its eastern neighbor.[7] Japan has been worried for years.[8] The debacle surrounding China's bugging of the African Union headquarters in Addis Ababa (see Chapter 4) has raised awareness across the continent.[9] In Latin America, Chinese support for the socially and politically disastrous regime in Venezuela has concentrated minds about the CCP's true colors, offering the world a salutary lesson about Beijing's claim to offer an attractive, alternative model for developing countries.[10]

The hardening of attitudes among political leaders mirrors a stark deterioration in China's reputation among the global public. In exclusive polling for HFX, Ipsos Public Affairs

surveyed citizens from twenty-eight countries—democracies and non-democracies—asking them to rate China's impact on world affairs over the next decade. In September 2020, 42 percent of respondents rated China positively, a drop of 11 percentage points from the same month in 2019, and 16 percentage points down from autumn 2017.

Among democracies in particular (see Figure 0.1), public attitudes have shifted noticeably, and ratings on China are now well below a falling global average.[11] The trend lines show that while Japanese citizens have long been cynical about China's intentions, its favorability ratings in Australia, Europe, and North America collectively peaked in 2017 and then declined sharply after that, a downward shift that the coronavirus accentuated in 2020.

At the level of high politics, there have been shifts in attitudes before. From the founding of the People's Republic of China (PRC) in 1949 until the 1970s, the relationship among the United States, its allies, and China was markedly hostile—understandable given that the United States and China had found themselves on opposite sides in the Korean War. Then, in the wake of U.S. President Richard Nixon's opening to Beijing, there was an alignment, of sorts, founded on mutual opposition to the Soviet Union.[12] It was a sensible piece of realpolitik. As is now known, the third shift in policy and attitudes toward Beijing was predicated upon a false belief that integration into the global system would promote democracy in China and respect for the rules abroad. What makes this latest realignment different, therefore, is that it comes after what can only be described as a foreign policy miscalculation of historic proportions.

This should be a cause of deep introspection about how policy is thought about, the more so because the wider political establishment has by now accrued an unenviable track record of misreading, or being taken by surprise at, a litany of major issues and events. These range from the fall of the Soviet Union and the rise of Islamism, through the Iraq War and Great Recession of 2008. It continued with the fracturing of the EU due to Brexit, the rise of Donald Trump in the United States and populism elsewhere, right up to the abject unpreparedness for the coronavirus despite years of being warned about the risks of a global pandemic.[13] Losing Hong Kong and Taiwan now risks being next on that list.

Democracies must go back to basics. The temptation to adopt reflexive postures—either understating the risks or overreacting without due caution—can only be resisted if democracies are prepared to acknowledge the failures of the past, and start again. This is precisely the time to do that, which is why reconceptualizing China is at the heart of what this handbook sets out to do. Policy recommendations are, of course, important. There is no shortage of them.[14] But to avoid the temptation to put the cart before the horse, democracies need to understand the nature of the problem first.

It is partly in recognition that global democracies need to think about things differently that HFX adopted a very particular approach in the preparation of this handbook and constructed it in a very particular way. The HFX team conducted in-depth interviews through much of 2020 with more than 250 dignitaries, experts, and business leaders from nearly thirty countries. In almost every case, discussions began with the same two questions: (1) What is the nature of the Chinese regime? and (2)

What is the nature of the threat that it poses to the world's democracies?

Respondents were, of course, free to dispute the premise of that last question, though few did. Instead, time and again, participants argued that there is an emerging twenty-first-century contest of values and principles with China, or, more precisely, the CCP. Far less common, though, was a sense of why.

So, what is the nature of the regime? What is the nature of the threat? First, it is clear the regime in Beijing is and will for the foreseeable future remain authoritarian, neither respecting nor deferring to the values of democratic nations, nor the global norms and institutions infused with those values. Second, the PRC increasingly has the economic power to assert its own authoritarian value system, not just inside China, or even Asia, but across the world. Third, the CCP under Xi Jinping, the president and party general secretary, is Leninist to the core (see Chapter 1) and has made clear in both word and deed that it intends to assert that power to make the world safe for its brand of authoritarianism.

There are several suggested explanations as to why China has become so aggressive. Some believe the aggression has emerged from what China views as a century of humiliation at the hands of global powers, and it is eager to settle old scores and meet the expectations of a newfound national pride.[16] Others blame the central, Leninist-totalitarian assumption that the mere existence of rival systems, most particularly democracy, poses an existential threat to communist rule.[17] Another school of thought sees naked power politics at play and argues that China behaves in this manner simply *because it can*.[18] The most current explanation suggests that while some or all of the above may be true, Xi, eager to establish his place in history, has overplayed his hand. He has gone too hard, too fast, and has provoked a backlash before China is strong enough to withstand it.[19] Time will tell. But whatever the source of this aggression, China and the world's democracies are plainly now locked in an increasingly

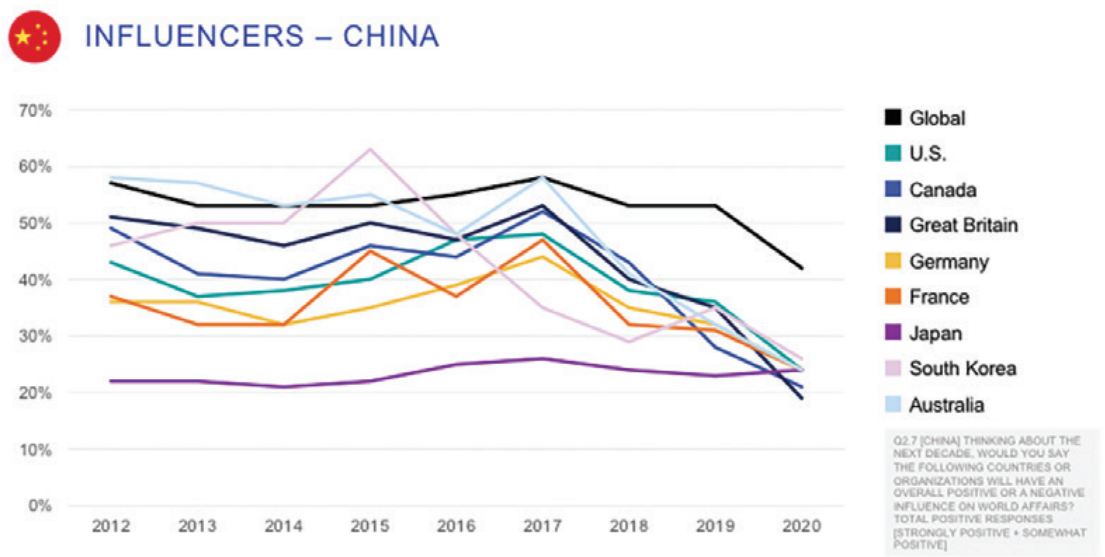


Figure 0.1 *Percentage of positive responses in selected democracies to the question: Thinking about the next decade, would you say China will have an overall positive or a negative influence on world affairs?*
Source: Ipsos for HFX

antagonistic standoff.

Cold Warriors?

Is this a new Cold War? Despite the aforementioned awakening, some still argue that a more robust overall stance, as opposed to ad hoc pushback, risks provoking one. But China's aggression toward democracies and democracy itself has been going on for years, and certainly long before the change of stance in Washington under President Trump. While no reasonable person would welcome a new cold war, if anyone has launched one, it is China. The country's aggression in democracies across the world amounts to interference in domestic affairs that, as this handbook will show, is both unprecedented and unprovoked.

Democracies cannot continue on a path of misreading this regime or failing sufficiently to push it back. Far from stirring the hornets' nest by being too tough, it is democracies' very weakness and vacillation that has encouraged the hard-liners in China by leaving them an open door to push against. Would Xi have really been so bold in cracking down on Hong Kong if, say, a decade ago, the world's democracies had adopted a united position, backed by the credible threat of major sanctions? It is precisely because China perceives us to be weak that it literally has taken so many liberties.

China started this fight, and it is within China's power to end it. Beijing can improve deteriorating relations, if it wants to. If it doesn't, as the instigator of a range of violations of international norms—such as fighter jet incursions in Taiwanese airspace; the dismantling of the One-Country, Two-Systems arrangement in Hong Kong; confrontations with India; cyberattacks against the United States and others; intellectual property theft; and disruption of American and allied democratic processes—it has no one to blame but itself for the push back that is now coming.

Nor is there any sign that Xi's aggressive stance is abating, either at home or abroad. In September 2020, a prominent Chinese businessman from an elite party background was sentenced to eighteen years in prison for criticizing Xi's initial censorship of the coronavirus outbreak.[20] In the same month, two days prior to talks between the Chinese leader and Germany's Chancellor Angela Merkel, German pork exporters suddenly found that they had been blocked from the Chinese market in an instance of what the *Financial Times* and others have referred to as "punishment diplomacy."[21] There is no record of a similar strategy of economic-diplomatic intimidation coming from the German side against China. Domestic oppression and external aggression are flip sides of the same CCP coin.

While it is crucial to state unambiguously the nature of the challenge that the regime poses, the world's democracies must also appreciate that though Xi's China is an authoritarian, Leninist state, it is not only an authoritarian, Leninist state. It is simultaneously the sovereign representative of the Chinese people. No one should forget that the Chinese people, with whom democracies have no quarrel, right now have no alternative but to have their interests—economic, diplomatic, cultural, and many others—articulated by Xi's regime. Ignoring or isolating Beijing is not a sensible option. Neither should diplomatic engagement or warm relations between leaders be castigated as a form of appeasement, as some of the more one-dimensional proponents of a tough line in meeting

the China challenge sometimes seem to suggest.[22]

Many of the greatest challenges that the people of this planet face in the twentieth century will require global solutions. Without China, they will be difficult or impossible to achieve. But this is precisely why it is imperative that democracies recalibrate this relationship on the basis of mutual respect for the rules of the international order, and why China must stop its unilateral assault on the world's democracies. All people of goodwill should be striving toward a stable equilibrium where genuine cooperation is possible, and indeed flourishes. But the very unstable equilibrium democracies now face is a direct result of failing to enforce the rules of the game sooner. Rather than democracies burying their heads in the sand, responsible, restrained, and robust pushback is far more likely to get them, and the wider world, to where they need to be.

It is worth pausing at this point to clear up some issues that, in the West in particular, can easily impede a constructive reappraisal of the China challenge and what to do about it. Understandably, and rightly in a pluralistic environment, there are different shades of opinion in relation to China, and there are several different starting points from which to approach it.

In the course of researching this handbook, it became clear that there are now at least three camps to consider. One camp, a diminishing group, but one whose views held sway for most of the post–Cold War era, essentially argues that there is no significant challenge from China and certainly not one that could be described as existential. Proponents of this view are not blind to the tensions between China on the one hand and the United States and its allies on the other. But, believing that skilled diplomacy will suffice, they argue that such tensions amount to little more than the birth pangs of an emerging, new global order as China, understandably enough, seeks international recognition and a level of respect commensurate with the economic power it now wields. For reasons that have already been stated in embryonic form, and which will be elaborated on throughout this handbook, that view is profoundly mistaken. It does not square with the available evidence. It can only truly be sustained by willful blindness to Beijing's words and actions, and to the imperatives arising from the Leninist nature of the regime (see Chapter 1).

The more interesting differences arise between two camps that are largely in agreement about the facts, and the nature, of the challenge that China poses but who disagree on how to meet and talk about that challenge. In part, this is a standard disagreement between "hawks" and "doves." Some, it would appear, have a dispositional inclination toward sticks rather than carrots; others, the reverse. In part also, particularly where there is a national or regional dimension at play, it reflects different interests. The economies of some democracies are more closely tied into a trading relationship with China than others. Poorer countries with underdeveloped infrastructures—roads, railways, ports, for example—will assess their national interests differently

"Many of the greatest challenges that the people of this planet face in the twentieth century will require global solutions. Without China, they will be difficult or impossible to achieve."

than more economically advanced democracies when Beijing attempts to seduce them with investments from its One Belt One Road Initiative (see Chapter 3).

But accommodating different interests, and debating responses is exactly what democratic nations and their peoples do. With one, nonnegotiable proviso—that there is no shirking the truth about the oppressive nature of the CCP's regime at home and the unacceptability of its encroachments on democracies abroad—HFX adopts a big-tent approach in terms of how democracies respond to the challenge Xi's China has posed. There is an expansive common ground on which people of goodwill can debate the next steps.

A final thought seems appropriate on the debate about the debate. Is HFX shirking the core issue here? Is HFX refusing to name its real ambition as "regime change" when the overwhelming drift of the argumentation is precisely that? Far from it. One of the many lessons the United States and others must learn from Iraq is that regime change in the absence of a clear and present military danger to the homeland is off the table, whether a democracy is considering its approach to China or any other nation.[23] Nonetheless, to be perfectly forthright, there is going to have to be what one might term "regime reconfiguration." HFX is not arguing that the CCP must give up power. That is up to the Chinese people to decide and no one else. But the way the CCP calibrates its interests and ambitions in the world will have to change if the kind of stable equilibrium referred to above is ever to be achieved. Given the path down which the CCP has gone in recent years, such a reconfiguration will undoubtedly be challenging. But that is China's problem to solve.

United We Stand

HFX's mission is to strengthen strategic cooperation among the world's democracies. Such an approach means that, respectfully yet firmly, HFX differs with those members of the foreign policy community who say that one of its objectives in dealing with Beijing should, for example, be to speak sotto voce about China's human rights violations.[24] HFX also disagrees with increasingly common calls to cozy up to Russia to create a wedge between Moscow and Beijing.[25] These are usually accompanied by suggestions to write off the annexation of Crimea and drop sanctions imposed due to incidents such as the assassination of opponents of the Kremlin whether inside or outside Russia. To be clear: Vladimir Putin's Russia cannot be trusted, even for alliances of convenience. A Faustian bargain with the Kremlin would cause more problems than it solved.

"...there is no shirking the truth about the oppressive nature of the CCP's regime at home and the unacceptability of its encroachments on democracies abroad..."

None of this means that democracies have perfect records on human rights or indeed anything else. Law-based, liberal democracy is superior to tyranny. Democracies must firmly resist the relativists and defeatists who assert that it is not. But too often, the triumphalism that followed the last Cold War froze the development and the evolution of open societies that, in recent years, have stagnated in important respects.

From overcoming racial injustice to alleviating deep distrust in politicians and institutions, the world's democracies have a mammoth task in front of them. Rising to these challenges is right in itself. When they are met, the soft power of democracy will also be enhanced dramatically.

Still, the need for improvements at home should not distract democracies from the seriousness and the scale of what they are up against around the world. The standoff with Xi's China is indeed a decisive moment in history, and the decisions democracies take over the course of the next decade will, to put it bluntly, determine whether they meet the challenge or whether they are overcome by it. The world's democracies have come to a fork in the road. There is a route to success, and there is a route to failure.

It is fundamentally important to understand that any strategy for meeting the CCP's challenge that frames it at the outset as a twenty-first-century contest between the United States and China has immediately ceded to Beijing the only conceptual and, indeed, practical terrain on which China can conceivably prevail. For it is precisely the effective deployment of the almost unimaginable power and wealth and technological prowess of the United States in conjunction with its vast array of allies all across the world that will guarantee that the challenge from China can be met and met handily. China has no allies. Instead, it has a motley band of quasi clients, such as North Korea and Pakistan, and opportunistic relationships of convenience with nations such as Russia—all nations that China can never trust and that in turn will never trust China.

This is not the same thing as America's alliance with Canada, or Great Britain, or Japan—where long-standing cooperation cemented in values and history create relationships of real meaning and, therefore, power. In so far as the United States retains the ambition to play the preeminent role in shaping the international system, it can do so successfully only by deploying the multiplier effect provided by its allies. Given the growing strength of China on so many fronts, this implies a far more cooperative and indeed egalitarian approach to alliances than the United States was used to in the twentieth century (see Chapter 6). This will require a change in mindset throughout the U.S. foreign policy establishment that goes far beyond the idiosyncrasies of any particular president or administration. But the prize is real. The United States remains the democratic world's natural leader. Multiplied by its allies, it can lead an unbeatable combination that can last all the way through the twenty-first century.

"The standoff with Xi's China is indeed a decisive moment in history, and the decisions democracies take over the course of the next decade will, to put it bluntly, determine whether they meet the challenge or whether they are overcome by it."

By contrast, the United States versus China—seen through a lens in which Washington forlornly adopts archaic twentieth- or even nineteenth-century approaches to square up to a Beijing with three times the population and perhaps twice the GDP by mid-century—most likely means victory for Beijing. Even

in a best-case scenario for the United States, where China's economic growth falters somewhat and its demographic imbalances come back to haunt it, China is going to be at least as big a player as the United States, however hard that may be for Americans to internalize.[26] If Washington goes it alone, the twenty-first century will be a place in which the United States gets pushed around a lot more than it is used to. And it will be an even worse place than that for the rest of the world's democracies, who risk being left clinging on to as much as they can, while scurrying around the diplomatic, economic, and perhaps military theaters of confrontation, desperately trying to dodge the flying shrapnel in a world governed only by the law of the jungle.

With an urgency unseen since the end of the Cold War, the China challenge therefore presents both the United States and its allies around the world with an offer that neither the United States nor those allies can afford to refuse: reforge, rebuild, reinvigorate, and reimagine alliances between democracies, or face the consequences. That, above all else, was the message HFX received from the nine months of research it conducted.

Can this be done? In one sense, democracies are already ahead of the game. It is true that many alliances between the United States and other democracies have been strained in the post–Cold War era. While it is tempting to blame this on the Trump administration, it is worth remembering how cold the Obama administration seemed to traditional allies such as Great Britain, or how heated some of the exchanges were in the early 2000s between European nations such as France and the Bush administration. And yet, these alliances have survived. There is plenty to work with.

The core of the China challenge is to create or breathe new life into alliances and partnerships of democracies, not as they were conceived for the twentieth century, but as they must be reimagined and reformed for the twenty-first. That is how democracies will win the twenty-first century's Greatest Game. But to get there, democracies everywhere must first understand what they are dealing with.

CHAPTER 1
HOME RULES

On June 12, 2020, the family of Chen Mei, an archivist working on an online project to publish material about the COVID-19 outbreak across China, received a call from the police. They were told Chen was being held at the Chaoyang Detention Center in Beijing. It was with a certain relief that they learned he was still alive. Chen, like tens of thousands of others, had been "forcibly disappeared" fifty-four days earlier. His crime? "Picking quarrels and provoking trouble" under Article 293 of the Chinese Criminal Law, which Amnesty International calls a "broadly defined and vaguely worded offence that has increasingly been used to target activists and human rights defenders."[29]

Chen Mei is far from alone. Indeed, there are far more egregious human rights abuses going on in contemporary China, including the seven-decades-long occupation of Tibet, during which more than a million Tibetans have been killed.[30] In addition, Amnesty International estimates that up to a million Turkic Muslim Uyghurs in Xinjiang Province have been incarcerated in so-called "transformation-through-education" camps. According to Amnesty, "The detentions appear to be part of an effort by the Chinese government to wipe out religious beliefs and aspects of cultural identity to enforce political loyalty."[31]

As much as these atrocities speak volumes about the brutal oppression that the Chinese Communist Party (CCP) is capable of visiting upon anyone who gets in its way, the more seemingly banal cases of Chen Mei and many like him are just as telling about the nature of the challenge that China poses to democracies around the world and, indeed, to the entire international community. In the spring and summer of 2020, with hundreds of thousands of people dead across the globe from a pandemic that began in China, Chinese citizens were *still* being arrested for collating vital information about the origins of COVID-19.[32]

There could be no clearer illustration of the crossover between the domestic human rights situation of this rising power, and the figurative and literal health of the democratic world. Standing shoulder to shoulder with the victims of CCP oppression is in democracies' vital interests.

This chapter will make clear that it is the very nature of China's regime, most particularly as it has been fashioned by Xi Jinping, that poses a unique and urgent threat to democracy.

An uncompromising tyranny

CCP tyranny has a long and sordid history. Since the regime's founding in 1949, it has been a one-party dictatorship determined to remain in power at all costs and at any price. Some of its lowlights include:

- *The Great Leap Forward from 1958 to 1962.* Mao Zedong's CCP was responsible for as many as forty-five million deaths during this period. Frank Dikötter, a historian, writes, "It is not merely the

extent of the catastrophe … but also the manner in which many people died: between two and three million victims were tortured to death or summarily killed, often for the slightest infraction."[33]

- *The Cultural Revolution from 1966 to 1976.* No one knows exactly how many people were murdered or driven to suicide, but collective killings for perceived anti-CCP attitudes were one of its hallmarks. There is no shortage of stories about atrocities committed, even by one neighbor against another. Yang Su, a scholar, wrote that "at least four hundred thousand and possibly as many as three million were killed in the countryside villages by neighbors."[34]

- *Tiananmen Square on June 4, 1989.* Even with the entire world watching, China's People's Liberation Army killed or injured thousands of demonstrators and bystanders. Tens of thousands were arrested in the aftermath.[35]

Today, Xi has rejected even the hesitant opening up of civil society that had developed in the 1980s and 1990s. Freedom House, which ranks China "Not Free"—its lowest category in terms of political freedoms— noted starkly in a 2019 report: "China's authoritarian regime has become increasingly repressive in recent years."[36]

This is entirely reflective of the ideological precepts that Xi sought to suture into China's political culture from the beginning of his tenure as leader. In 2013, a "confidential" CCP communiqué was circulated to all sections of the party and state. Known as "Document No. 9," and bearing the unmistakable imprint of Xi, it warned of and demanded action against "false ideological trends, positions, and activities," including any attempts to promote democracy, civil society, or "universal values" (see Figure 1.1).[37]

SEVEN "SINS" OPPOSED BY THE CCP

1. **Promoting Western constitutional democracy in an attempt to undermine the current leadership and the CCP's brand of the socialism with Chinese characteristics.**
2. **Promoting "universal values" in an attempt to weaken the theoretical foundations of the party's leadership.**
3. **Promoting civil society in an attempt to dismantle the ruling party's social foundation.**
4. **Promoting neoliberalism in an attempt to change China's basic economic system.**
5. **Promoting the West's idea of journalism in an attempt to challenge China's principle that media and publishing systems should be subject to party discipline.**
6. **Promoting historical nihilism in an attempt to undermine the history of the CCP and of New China.**
7. **Questioning CCP's reform and opening strategies as well as the socialist nature of China's new CCP socialism.**

Figure 1.1 *Seven "Sins" Opposed by the CCP.*
Source: ChinaFile, "Document 9: A ChinaFile Translation"[38]

The CCP has been sedulous in thwarting each and every one of these purported threats to its rule.

China's uncompromising tyranny can be seen in its internet censorship and surveillance. Although the "Great Firewall," which limits internet connections to the outside world, gets much of the attention, the CCP has also placed restrictions on apolitical social media platforms and continues criminal prosecutions for political, social, religious, and even humorous speech online. New advances in artificial intelligence and facial recognition have been incorporated into the regime's surveillance state, offering the frightening potential for crackdowns.[39]

In recent months, analysis of thousands of satellite images revealed more disturbing evidence of a "vast, growing infrastructure for long-term detention and incarceration" in Xinjiang Province. Regime leaks make clear that Xi and other leaders have been driving the campaign against the Uyghurs directly (see Figure 1.2).[40]

Consensus no more

This is not how many in the democratic world had envisaged matters evolving in China. For much of the post–Cold War era, Western governments, and Westerners generally, assumed that as China accrued the benefits of capitalist economics, democratic politics, albeit in fits and starts, would inevitably follow. As former U.S. President Bill Clinton said of the country's accession into the World Trade Organization (W.T.O.): "Membership in the W.T.O., of course, will not create a free society in China overnight. ... But over time, I believe it will move China faster and further in the right direction, and certainly will do that more than rejection would."[41] President George W. Bush was, if anything, even more confident that China was on the path to democratic reform. In a speech in China in 2002, he said bluntly, "Change is coming."[42]

The U.S. consensus held firm through Democratic and Republican administrations, including during moments of crisis like the 2001 spy-plane saga and the 2008 financial crisis.[43] It only began to shake toward the end of

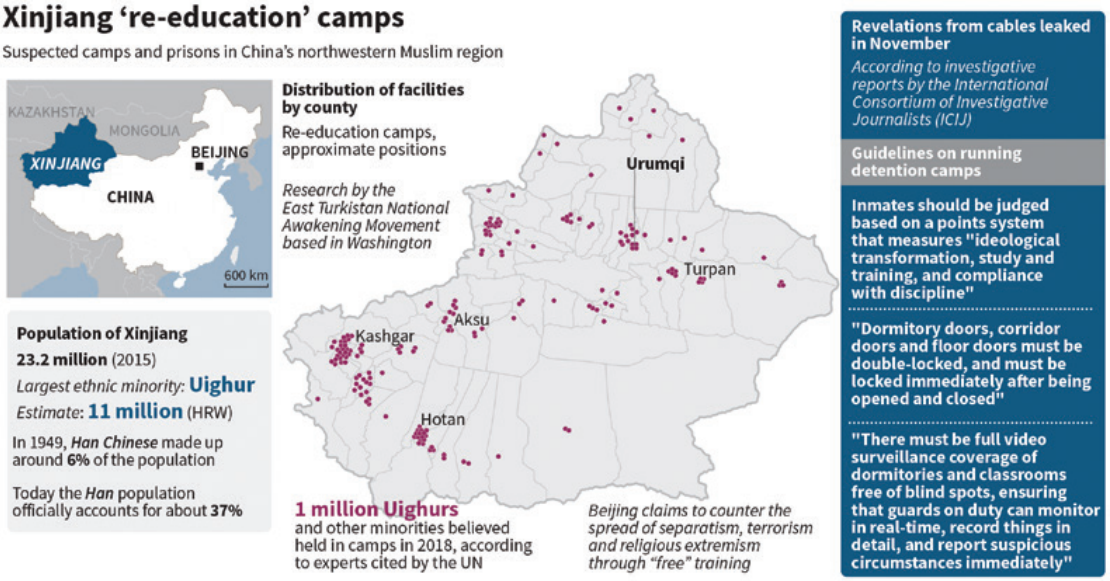


Figure 1.2 *Xinjiang's 're-education' camps. Source: Agence-France Presse*

President Barack Obama's second term. In 2015, the White House Press Office released a Factsheet to journalists, which, in one section, read: "[W]e are managing the real and complex differences between us—in areas such as cyber, market access, maritime security, and human rights—with candor and resolve. China cannot effectively wield influence while selectively opting out of international norms."[44]

Nerves were plainly beginning to jangle, and recognition of the need to reconsider the whole relationship with China started, slowly but surely, to crystalize. Under the presidency of Donald Trump, the old approach to China, as to much else, evaporated. It was transformed into tit-for-tat trade wars, increasingly abrasive rhetoric, and ever more proactive measures from Washington to counter Beijing-inspired intellectual property theft, cyber espionage, and intrusive behavior from Chinese tech companies (see Chapter 4).

Seen over a 30-year perspective, there has been a 180-degree turn. And while it is easy to be wise with hindsight, it is foolish not to make use of hindsight when one has it. Of course, there is room for reasonable disagreement about the pace, intensity, and selection of priorities inside the much-needed counter-strategy to Beijing's ambitions on the global stage (see Chapter 2), but the reality of what this regime is and what it wants needs to be kept front and center if democracies are to be properly equipped to meet the challenge it poses.

Capitalist, and nationalist, but Leninist, too

If there is one matter that has tended to throw people off course in their attempts to understand China's present-day rulers, it is the apparent contradiction between an avowedly communist, one-party state and its fulsome embrace of capitalism. The economic growth due to a form of state-directed capitalism that has lifted hundreds of millions of Chinese citizens out of poverty and that functions as a central pillar of the CCP's legitimacy is surely proof in itself, many argue, that the commitment to communism is purely vestigial—the legacy mantle of an ideology that no one, least of all China's leaders, remotely believes in.[45]

Another central pillar of today's CCP that does not sit easily with orthodox communist ideology is Chinese nationalism. Beijing remains committed to forging ahead from the so-called "century of humiliation," during which China struggled under colonial and great-power politics. In Xi's keynote address to the nineteenth National Congress in 2017, he referred to the "Chinese dream of national rejuvenation," "Chinese wisdom," and "socialism with Chinese characteristics."[46] These sound like the kinds of utterances that Marx, who regarded nationalism as a retrograde form of political identity, was wont to deride with a biting sarcasm. Even many Western liberals would today find it jarring to talk in such overtly nationalistic terms. The word "socialism" in that context looks like window dressing. As one scholar observed, "It appears evident on closer examination of official discourses that such elements as Marxism, socialism and communism are reduced to empty signifiers in contrast to elements of nationalism."[47]

One can still find references inside Communist Party leaders' speeches to "the revolution" and "communism," though the latter is conveniently consigned to the realm of the distant future. As Xi averred, speaking to the CCP Central Committee in January 2013, "The *eventual* demise of capitalism and

the *ultimate* victory of socialism will require a *long* historical process to reach completion" (emphasis added).[48]

What has any of that really got in common with a modern-day China that is the world's biggest importer of Rolls Royces and in which Xi's "Chinese Dream" is built as much as anything else on a quintessentially capitalist ethos of *enrichissez-vous*?[49] And yet, China continues to call itself a communist state, and it is ruled by the Communist Party.

If China's leaders have embraced both nationalism and at least some form of capitalism, why do they not simply call the whole thing off? That is, of course, precisely what American and Western leaders predicated their relationship with China on for much of the last three decades. They erred because they misunderstood the political core of the Leninist project.

past, a mythology, a culture that requires that CCP leaders repeat mantras, such as "the eventual demise of capitalism," even if they may not believe in them. But not believing in these mantras does not imply that they lack meaning. On the contrary, they have a vital meaning since they signal to CCP members and wider Chinese society that the party means business. To challenge it would be to challenge a locomotive that has been hurtling through Chinese society for decades and that has been prepared to run over anything in its path. It won't easily be stopped.

The confusion here, deeply embedded in some sections of the Western intelligentsia, lies in the belief that Marxism-Leninism was an essentially benign ideology of social development and justice that was hijacked by despots in the context of Russian and Chinese political cultures and histories where liberalism was absent. A better

"The sole, overriding, animating goal of the CCP is to remain in power. Survival is all that matters."

In the first place, the system has solidity simply because it is there. Current and aspiring leaders have little personal incentive to rock a boat that provides them with meaningful, real-world benefits. But more consequentially, they *are* Leninists. Xi, who was schooled during the Cultural Revolution, is a true believer. Of course, he does not believe that nationalizing the commanding heights of the economy, to use the old parlance, would offer a better route to economic success than the current combination of markets and state directed private industry.[50] But he and the CCP *are* fundamentally committed to communism as a political system.

Within and around that system, there is a

explanation is that Marxism-Leninism was first and foremost a despotic ideology that hijacked anti-capitalist ideas about development and social justice as a cover for its totalitarian essence. Nothing was sacred if state-controlled capitalism and nationalism proved to be better vehicles for the totalitarian party. The sole, overriding, animating goal of the CCP is to remain in power. Survival is all that matters.

Indeed, one of Xi Jinping's earliest moves as CCP leader in 2012 was to require party members across China to watch a documentary about the demise of the Soviet Union. In what became known as his New Southern Tour Speech, Xi asked, "Why did the Soviet Communist Party

collapse?" He shared an answer:

An important reason was that their ideals and beliefs had been shaken. In the end, "the ruler's flag over the city tower" changed overnight. It's a profound lesson for us! To dismiss the history of the Soviet Union and the Soviet Communist Party, to dismiss Lenin and Stalin, and to dismiss everything else is to engage in historic nihilism, and it confuses our thoughts and undermines the Party's organizations on all levels.[51]

For the benefit of anyone who may still harbor doubts about the CCP's absolute determination not to go the way of the Communist Party of the Soviet Union, he concluded: "A big party was gone just like that. Proportionally, the Soviet Communist Party had more members than we do, but nobody was man enough to stand up and resist."[52]

This does not mean that China today looks like the totalitarian, Leninist societies of yesteryear, or that Xi wants it to. The fact that there is a quasi-capitalism all over modern China makes the kind of total control of society aimed at by the Soviet Communist Party in the 1930s impossible, though the CCP's embryonic, digitally powered surveillance state may yet yield an even more complete form of totalitarianism than Stalin could have dreamed of.

A consultative Leninism?

China watchers will not infrequently happen upon a characterization of the regime's stance known as "consultative Leninism."[53] It sounds promising. Perhaps the CCP has found a way to embrace democratic pluralism in the context of a one-party state? It may have been this line of thinking that encouraged Michael Bloomberg, the multibillionaire, former New York mayor, and candidate in the 2020 Democratic Party presidential primaries, to assert that Xi was "not a dictator." Bloomberg continued, "He has to satisfy his constituents or he's not going to survive."[54]

It seems that some Westerners still remain persuaded by the post–Cold War belief that democracy is on an inexorable march (see Chapter 2). As a result, they look for reasons why authoritarianism may not be all that it appears to be. Are there not "stakeholders" whose interests the CCP seeks to accommodate? Does Xi not want to strengthen his legitimacy among the Chinese people? Undoubtedly. All political systems that are more sophisticated than a tin-pot, military dictatorship take account of stakeholders. They all crave legitimacy. Communist-ruled China is no exception.

To that end, the CCP has sought to abolish poverty, improving the material prosperity of the Chinese people. (Of course, no one should forget that it was the CCP that caused a lot of the poverty in the first place through disastrous ventures such as the Great Leap Forward.)[55] Moreover, it rules a country of 1.4 billion people.[56] It cannot maintain a mission of "national rejuvenation," nor a hold on power, without bringing along significant segments of the Chinese population. Which returns the discussion to "consultative Leninism," of which scholar Steve Tsang identifies five elements:

- "the Communist Party is obsessively focused on staying in power, for which maintaining stability in the country and pre-emptively eliminating threats to its political supremacy are deemed essential;

- "a focus on governance reform both within the Party and in the state apparatus in order to pre-empt public demands for democratization;

- "a commitment to enhance the Party's capacity to elicit, respond to and direct changing public opinion;

- "a commitment to sustain rapid growth and economic development by whatever means and, where the party leadership deems politically expedient, regardless of its previous ideological commitment to Communism; and

- "the promotion of a brand of nationalism that integrates a sense of national pride in a tightly guided narrative of China's history and its civilization with the greatness of the People's Republic under the leadership of the Party."[57]

He continues: "Even though Communism is no longer the ultimate goal for development, the Communist Party keeps its Leninist structure and organizational principles and remains totally dedicated to staying in power. It is anti-democratic in nature and relies on the Party as the principal instrument to exercise control over the state institutions."[58]

In sum, the CCP's relationship with the Chinese people is aimed precisely at sustaining its own, unchallenged, authoritarian rule. It wants to be popular; it needs legitimacy. The fact that it is not deaf to the aspirations of the people it governs in no way means that the CCP is remotely democratic or pluralistic in its relationship with Chinese society. There are, of course, different shades of opinion inside the party itself. CCP members are not clones. But there is no room for discussion inside or outside the party about whether its rule should or should not be supreme.

CHAPTER 2
DEMOCRACIES IN THE CROSSHAIRS

The price of freedom, it seems, can be measured in dollar terms. In the case of the 2016 blockbuster Doctor Strange, the valuation came in at a little over $110 million. This was what the Marvel superhero movie earned at the Chinese box office.[59] No one, it seems, was going to risk a paycheck of that magnitude by offending the CCP. In the original comic book, a character named "the Ancient One" was a Tibetan man possessed of magical powers. In the movie, the Ancient One was played by the very un-Tibetan Tilda Swinton, an actress of Scottish heritage. Not only was the part not played by a Tibetan, or even Asian actor; the role was changed so that Swinton's character reflected Celtic rather than Tibetan origins.[60]

It was an odd turn of events. It soon became odder still. Before the movie's release, screenwriter C. Robert Cargill explained the Ancient One's metamorphosis: "If you acknowledge that Tibet is a place and that he's Tibetan, you risk alienating one billion people who think that that's bullshit and risk the Chinese government going, 'Hey, you know one of the biggest film-watching countries in the world? We're not going to show your movie because you decided to get political.'"[61]

Disturbing as that explanation may be, the subtext is even worse. The CCP was able to exert censorship in the United States, and across the world, even when it hadn't been asked for. Those who remain mired in denial about the threat that Beijing poses to democracy and to the values that democracy embodies would do well to ponder on that story. Chinese tyranny coming soon to a theater near you is no longer a figure of speech.

What China wants from the world

In October 2017, Xi gave a speech to the nineteenth National Congress in Beijing's Great Hall of the People. In it, he was clear about China's intentions for the world. He said that China was "blazing a new trail for other developing countries to achieve modernization," and "China will continue to play its part as a major and responsible country, take an active part in reforming and developing the global governance system, and keep contributing Chinese wisdom and strength to global governance."[62] In case there was any ambiguity about what "Chinese wisdom and strength" meant, he continued, "History looks kindly on those with resolve, with drive and ambition, and with plenty of guts; it won't wait for the hesitant, the apathetic, or those shy of a challenge."[63]

In "Thought on Socialism with Chinese Characteristics for a New Era," a specifically Xi-inspired contribution to party ideology, he early in his speech clarified that "diplomacy with Chinese characteristics aims to foster a new type of international relations and build a community with a shared future for mankind."[64] That this shared future does not include liberal democratic values should by now be obvious.

In attempting to understand Chinese foreign policy toward democracies around the world, it is of crucial importance always to keep in mind that it is the endurance of CCP rule at home that is the overriding priority.

Consider a landmark speech delivered in Beijing in 2018, in which Xi delineated a list of ten maxims of Chinese foreign policy. At the very top of the list was Xi's instruction to everyone involved in the theory and practice of Chinese foreign policy to: "Uphold the authority of the CCP Central Committee as the overarching principle and strengthen the centralized, unified leadership of the Party on external work."[65]

In 2009, prior to Xi's accession to power, the state councilor in charge of Chinese foreign policy ranked China's core external interests as "foremost, preserving China's basic state system and state security; after this, national sovereignty and territorial integrity; and in third place, sustain stable development of the economy and society."[66] Note how the preservation of the state system—Communist Party rule—comes even before national sovereignty or economic stability. This order of priorities has continued to hold. In 2017, one of Xi's foreign policy advisers cited his leader's instruction that "upholding the leadership of the Chinese Communist Party and socialism with Chinese characteristics is the most basic task in foreign policy."[67]

Recognizing this reality helps explain the widely noted but at first sight bewildering fact that China has hitherto played only ancillary roles in humanitarian and strategic issues, from North Korea to the Middle East.[68] Great powers typically take on a more global role, for both the prestige, and as a demonstration of their indispensability in international affairs. China's participation in such matters has been patchy.

North Korea is a fascinating case study. Beijing has, of course, been involved and is a vital and influential player. But, as scholars of North Korea have noted, China has been cautious and often tentative in its approach, fearing a collapse of the regime more than finding a lasting solution to the problem.[70] Why might this be? Certainly, Beijing fears the prospect of a unified peninsula potentially leading to a reunited and ultimately more powerful Korea under Seoul's control, right on its border, and allied to the United States. Another possible answer—the two are not mutually exclusive—is that North Korea is also a Leninist state, albeit a very strange one. As one leading expert has suggested, even though it would be manifestly in the interests of the Chinese nation to sort out an extremely dangerous nuclear standoff on the Korean Peninsula, undermining a communist regime in Pyongyang could trigger disquieting and potentially destabilizing questions at home.[71] A CCP that is obsessively aware of how one regime after another collapsed in Eastern Europe in 1989 is not of a mind to light a fire so close to home.

The same focus on the sustenance of CCP rule domestically also applies to international humanitarian efforts, on which China has been conspicuously

absent. COVID-19 provided a perfect illustration of an exception that proved the rule. China *did* get involved, but precisely because, having censored the doctors and silenced the scientists in the pandemic's early stages, the reputation of the CCP and its system of rule came under intense scrutiny, both at home and abroad.[72] In other humanitarian ventures, China has typically been lackluster, to say the least.[73]

Some of this could change as the ideological contest between the People's Republic of China (PRC) and the world's democracies ramps up in the years to come. But the way Beijing behaves in the international community provides convincing evidence that it is indeed the preservation of the communist system in Beijing that is first and foremost in Chinese foreign policy. This has inescapable implications for any serious attempt to comprehend China's threatening stance toward democracies around the world.

Power tools

While many China watchers are prepared to accept that the CCP is an oppressive ruler at home, and that it may pose a threat in its immediate vicinity—Taiwan and Hong Kong, first and foremost—it is all too often, explicitly or implicitly, suggested that the rest of the world can breathe easy. Compared with the Soviet Union's expansionist-ideological playbook of the twentieth century, modern-day China is not seen to be in the business of exporting ideology. In some ways, that is correct. The CCP does not support, overtly or covertly, workers' parties in foreign democracies. It does not instigate communist coups. Its cyber campaigns of disinformation are not peppered with ideological slogans. Beijing wants cash, not comrades. It is more Marks & Spencer than Marx and Engels.

But that is only part of the story. Beijing does want cash, but it also wants conformity. To enforce the latter, it has multiple tools at its disposal.

One is the United Front Work Department. It is among China's main headquarters for efforts to exert influence on major issues of concern to the CCP. From undermining Tibet and the Dalai Lama, to promoting loyalty to the CCP in Hong Kong, Taiwan, and Macau, the United Front works across the globe to boost pro-Beijing leaders. It has been invigorated under Xi.[74] To cite one example of activities that have been going on for many years now, the United Front teaching manual, obtained by *Financial Times* in 2017, "notes approvingly the success of overseas Chinese candidates in elections in Toronto, Canada. In 2003, six were elected from 25 candidates but by 2006 the number jumped to 10 elected from among 44 candidates."[75]

China's economic and technological espionage extends deep into U.S. higher education, facilitated by large monetary gifts to universities and enticements to scholars. The highest-profile case involved the former head of Harvard's chemistry department, Charles Lieber. He was arrested in January 2020 on charges of failing to disclose payments from China under a secret three-year contract with a Chinese university as part of Beijing's so-called "Thousand Talents" program.[76] Lieber is just one scholar inside a massive Chinese espionage and influence operation. The U.S. Department of Education "has uncovered over $6.5 billion of previously unreported foreign donations to U.S. Institutes of Higher Education," some of which are from China.[77]

The PRC also suppresses anti-CCP views

in higher education through its worldwide network of Confucius Institutes, funded by the government of China and installed at universities around the world. The U.S. National Association of Scholars counted seventy-five Confucius Institutes in the United States as of June 2020, including sixty-six at colleges and universities.[78] According to the association, the Confucius Institutes "compromise academic freedom, defy Western norms of transparency, and are inappropriate on campuses."[79]

China is not above hostage-taking to further its foreign policy ambitions. At the time of this writing, China was using two Canadian citizens as bargaining chips in its bid to force Canada to release Huawei's Chief Financial Officer Meng Wanzhou. Meng was detained and placed under house arrest in Vancouver in December 2018 on an extradition request from the United States for violating sanctions against Iran. Subsequently, Canadians Michael Spavor and Michael Kovrig, two consultants, were arrested and jailed in China. In July 2020, the "Two Michaels," as they are known, were charged with espionage by Chinese authorities in a blatantly political move.[80]

Hong Kong, of course, is on the front line. In June 2019, hundreds of thousands of people took to the streets to protest a new law that would allow Beijing to extradite Hong Kong citizens to mainland China. The bill was quickly withdrawn under public pressure, but citizens demanded investigations into rampant police brutality and pushed for reforms to protect their democratic rights under the "One Country, Two Systems" framework in place since 1997.[81] In July 2020, the Central Committee in Beijing imposed a draconian national security law on Hong Kong, allowing for the swift arrest of hundreds of peaceful protestors, the removal of pro-democracy books from Hong Kong public libraries, and the censoring of school textbooks. It even went so far as to include under its remit Hong Kong residents living abroad as well as foreign nationals. Almost immediately after the law came into effect, it became clear that a new and repressive era had dawned; it involved the arrest and charging of pro-democracy activists and high-profile critics of Beijing, as well as bans on pro-democracy candidates running in local elections.[82]

The wider Asia-Pacific region is also prey to Beijing's nefarious ambitions. In 2017, Australian Labor Party Senator Sam Dastyari had to resign when it was revealed that he accepted donations from Chinese billionaire Xiangmo Huang, that he had tried to influence his benefactor's citizenship application, and that he had warned Xiangmo of surveillance by Australian authorities.[83] The Dastyari scandal prompted the Australian government to expel Xiangmo and pass new laws on espionage and intelligence that require people working in Australia on behalf of foreign governments to declare such connections to the Australian authorities.[84]

"...it became clear that a new and repressive era had dawned: it involved the arrest and charging of pro-democracy activists and high-profile critics of Beijing..."

A subtler challenge to democracy

While such blatant interference continues, Beijing often adopts a "subtler" approach. China is an economic colossus that uses its growing prosperity to both secure the

legitimacy of CCP rule at home and to extend Chinese influence abroad. It does so not with twentieth-century ideological battles and proxy wars, but with a twenty-first-century appreciation for how to use Western consumer demand to undermine the West's own values.

For example, in October 2019, Daryl Morey, the general manager of the Houston Rockets, posted a message on Twitter in support of Hong Kong's pro-democracy activists. The statement enraged officials in Beijing, who pulled National Basketball Association (NBA) games from Chinese television, costing the NBA hundreds of millions of dollars. China is the NBA's most profitable foreign market, valued at $5 billion annually.[85] A groveling apology followed the incident, with the NBA saying that Morey's remarks had "deeply offended many of our friends and fans in China, which is regrettable."[86]

Such bullying tactics extend to Central Europe. Soon after Prague's Mayor Zdenek Hrib was elected in November 2018, he began to question Beijing's "One China" stance, which among other things discredits the freedom and legitimacy of Taiwan. In January 2019, Hrib hosted the Taiwanese ambassador at a City Hall event. China retaliated by canceling the Czech Philharmonic's fall 2019 tour of China, costing the orchestra several million Czech crowns.[87] At the same time, it was revealed that the wealthiest Czech businessman had surreptitiously paid for a public influence campaign to promote pro-China views in the Czech Republic.[88]

Those familiar with the Dr. Strange fiasco (see above) will not be surprised to learn that Hollywood has continued to appease Beijing's sensibilities, sacrificing artistic independence and integrity to rake in hundreds of millions of dollars from the booming Chinese film market. Among a growing list of examples is the removal of Taiwanese and Japanese flags from the jacket of Tom Cruise's character in trailers for the 2021 sequel to Top Gun.[89] There's more. In September 2020, nineteen members of Congress sent a bipartisan letter to Bob Chapek, the CEO of Walt Disney, inquiring as to why Disney had appeared to cooperate with "Xinjiang Uyghur Autonomous Region's (XUAR) security and propaganda authorities in the production of Mulan," a movie drama based on Chinese folklore.[91] Summarizing this parlous state of affairs in August 2020, PEN America said in a report that "Hollywood's approach to acceding to Chinese dictates is setting a standard for the rest of the world."[92]

Some of the most high-profile, multinational companies have also kowtowed to Beijing. In 2018, Marriott upset Chinese communists by sending a customer questionnaire listing Tibet, Hong Kong, Macau, and Taiwan as countries, and it further enraged the CCP when a junior employee "liked" a tweet in support of Tibet's independence. China's cyber authority blocked Marriott's website and app in China. Marriott then debased itself with a series of public apologies, including from the company's president. It even fired the $14-an-hour social media manager, who had been responsible for the Twitter activity in question.[93] Examples beyond Marriott abound. From Calvin Klein to Versace, McDonald's to Mercedes-Benz, companies around the world have swiftly apologized for any perceived slight to CCP sensitivities.[94] Along with rampant espionage and military pressure, these intimidation and blackmail techniques form what one scholar has called "the New China Rules."[95]

Undermining the democratic order

Not content to undermine democracies and their values, Beijing is plainly intent

on undermining the international order that serves them both. This is one reason why China actively backs tyrannies at the same time as opposing democracies. Support for Nicolas Maduro's Venezuela is one example; working hand in hand against democratic norms with Russia is another.[96,97] Bashar al-Assad's Syria is also on Beijing's radar, though it has let Russia do the dirty work.[98] Making the world safe for authoritarianism is a guiding maxim of Chinese foreign policy.

As an aspect of this, there are growing concerns that Beijing is creating structures that could lead to a parallel system of global governance designed to shape the international order in China's image, or at least in its strategic interests. The One Belt One Road Initiative (see Chapter 3) is often described as central to this ambition. The New Development Bank, headquartered in Shanghai, and the Asian Infrastructure Investment Bank, based in Beijing, have also been raised as potential building blocks for this parallel world order, though some observers dispute their effectiveness.[99]

China has also sought to capture established international institutions, making them either ineffective at their missions or better at protecting Beijing's interests. As such, China is insinuating its own illiberal standards and values at every opportunity.

Beijing has made it a priority to install its representatives as leading figures in international organizations, including the International Telecommunication Union, the International Civil Aviation Organization (ICAO), and the Food and Agriculture Association.[100] Such positions have allowed China to protect its regime and undermine what it sees as threats. For example, Beijing leveraged its leadership of ICAO to block Taiwan from the organization, promoting Beijing's position that Taiwan belongs to mainland China and excluding Taiwan from coordination efforts to address the spread of coronavirus.[101]

Nowhere has this effort been more direct than at the United Nations. Xi has made China a more active player on the powerful U.N. Security Council, most

often as a spoiler. In the thirteen years since 2007, China has vetoed eleven Security Council resolutions, compared with just two in the thirteen years prior to that.[102] Analyst Kristine Lee explains the PRC's strategy as follows: "Through a combination of deft coalition-building, strategically timed financial contributions and narrative-shaping efforts, Beijing has made progress in transforming the U.N. into a platform for its foreign policy agenda, including advancing China's economic interests, stifling dissent and democracy, and hollowing out the rules-based order."[103]

Most grotesquely ironic is the PRC's infiltration of the U.N. Human Rights Council, in which it successfully passed resolutions in 2017 and 2018 that create additional maneuvering room for the government of China to infringe on human rights.[104] Over the protests of rights groups, China has already served four terms on the Council and, as of this writing, is poised to be elected for a fifth two-year term.[105] In November 2019, China even joined Russia to enable additional censorship and surveillance by authoritarian governments with a resolution to "fight cybercrime."[106]

One of the most egregious instances of Chinese malign influence in international institutions came as the world was just starting to grapple with the implications of COVID-19. In January 2020, World Health Organization (WHO) Director-General Tedros Adhanom Ghebreyesus lavished praise on China for its coronavirus response, ignoring Beijing's policy of hiding the COVID-19 crisis in Wuhan by silencing its own doctors and withholding vital information from the WHO about the virus.[107,108] The CCP's concealment strategy meant that the WHO only declared an international health emergency on January 30, 2020, a month after it had first requested information from China.[109] In addition, Beijing's petty exclusion of Taiwan from the WHO meant that when Taiwan's Central Epidemic Command Center (CECC) warned the WHO about the possibility of human-to-human transmission of the coronavirus on December 31, 2019, "the WHO didn't take the information provided by Taiwan seriously, and [the CECC believes] that led to the delayed global response to the COVID19 pandemic."[110] The Associated Press reported that "China stalled for at least two weeks more on providing WHO with detailed data on patients and cases, according to recordings of internal meetings held by the U.N. health agency through January—all at a time when the outbreak arguably might have been dramatically slowed."[111]

"Most grotesquely ironic is the PRC's infiltration of the U.N. Human Rights Council, in which it successfully passed resolutions in 2017 and 2018 that create additional maneuvering room for the government of China to infringe on human rights."

The above list of cases is far from exhaustive. Even in abridged form, it nonetheless provides overwhelming evidence that the idea that Beijing's authoritarian ambitions are merely domestic or regional is simply wrong.

Not so Soviet, not so lucky

It sometimes seems that a big part of the problem in widening an understanding of the nature of the challenge from Xi's China is that some do not want to understand it. As suggested in Chapter

1, the previous U.S. consensus on China reflected deep-seated convictions among Western decision makers and thought leaders. That consensus, and the threads attached to it, which still remain, was based on certain core assumptions about the inevitability of freedom following the West's victory in the Cold War.

That line of thinking achieved its most famous expression in Francis Fukuyama's "End of History" paradigm.[112] Its core proposition was that while the to-ing and fro-ing of political and historical events would continue, the ideological struggle was over, for all time, and the Western model of liberal-democratic capitalism would inexorably expand until there was nothing but that left. The world is still waiting. And there is a whole gamut of explanations (some, to be fair, offered by Fukuyama himself) to make clear that the problem is greater than a lack of patience.[113]

China, perhaps above all other possible illustrations, brings "The End of History" paradigm to its knees. Quite apart from the fact that it was the kind of complacent assumptions flowing from that paradigm that sent everyone to sleep over China's rise, the real problem is the roaring "success" of Xi's particular brand of authoritarianism. It is possible to be even more precise. The coexistence (see Chapter 1) of a Leninist party state with capitalism (albeit state-directed) in the most populous country on the planet provides significant evidence that the contest definitively won in 1989 was primarily economic. Capitalism as a means to accumulating wealth and spreading material prosperity defeated state socialism and did so once and for all. By contrast, liberal-democracy's victory was partial, and localized, and in important respects, now threatens to be reversed, even in the most advanced democracies.

Apart from the ill-fated "End of History" paradigm, there are also misleading historical analogies to contend with in any attempt to establish a clear understanding of the contemporary challenge from China to the outside world. Drawing parallels with the Soviet Union, for instance, is an easy way of leading oneself astray. The analogy is admittedly seductive: like China today, the Soviet Union was a major power with global reach; it was a competitor to the United States and its allies; and, of course, it was ruled by a communist party. But the differences are at least as significant as the similarities. In stark contrast with anything even the most optimistic Soviet leader could ever have imagined for the Soviet Union, China is well on the way to equaling and even exceeding the United States economically. The very nature of the globalized twenty-first-century economy, and China's integral place within it, is far removed from the twentieth-century bipolar world in which the Soviet Union was an economic backwater. China today is a leader in a digital revolution that had not yet taken off in the Cold War era. The CCP bullies countries into submission not with force or by fostering local, Marxist-Leninist affiliates, but by using debt and foreign direct investment (see Chapter 3). China occupies Tibet and threatens Taiwan. But it does not have a colonial-style empire across half a continent as the Soviet Union had in Eastern Europe.

In an ironic twist, those who accuse people taking the challenge from China seriously of wanting to launch a new Cold War, appear themselves to be the ones who are locked in Soviet-era thinking. Some who were schooled in the Cold War–era find it hard to recognize a twenty-first-century global threat to democracy unless it comes with the political economy, the colonial ambitions,

and the ideological bells and whistles of the twentieth-century Soviet Union.

The truth starting to dawn on many involved in this discussion is that the challenge to the world's democracies mounted by China today is not only different from the one mounted by the Soviet Union, but potentially more difficult to deal with. China is simply a much bigger and much richer competitor. In a global economy, the wealth of one is tied up with the wealth of all. Through that, China's very integration and connectedness with the world's democracies brings the CCP's challenge much closer to home than the Soviet threat ever was. It is a dilemma that is not easy to resolve, though China itself may now be forcing the issue. The kind of Chinese behavior outlined in this chapter is starting to provoke a backlash. Chinese tech companies are increasingly seen as pariahs (see Chapter 4). Once defunct alliances, such as the Quad—India, Japan, Australia, and the United States—have been given new life (see Chapter 6). Even if complete "decoupling" is an unlikely outcome, the kind of diversification away from the Chinese economy that is now taking place in North America, Europe, and major Asian economies such as Japan risks harming China's growth.[114]

Such a backlash is not inevitable for a rising power. The United States did not provoke a backlash as its economy soared after World War II. Japan, Britain, Australia, and company did not seek to diversify and decouple because the United States was becoming too economically powerful. As one China analyst put it, "No other major trading country's government, not even Japan's at the height of its power in the 1980s, has intimidated and threatened foreign governments or businesses" as China has.[115]

There would be no demand to diversify and decouple from China today were it not for the behavior of the CCP abroad. One cannot say too often that it has brought this on itself. The crucial point to understand is that it has done so because it can do no other, at least in its current incarnation as a rigidly Leninist party under Xi that will tolerate no dissent. As such, it is hostile to democracy in both theory and practice. Neither is it paranoid. Most Leninist parties are long gone. In a globalized world where Chinese businesses and people are not confined inside national borders—and are therefore exposed to the "risk" of encountering criticism of Xi and his regime—the CCP believes it must go outside of China's borders and meet the challenge posed by democracy head on. Unless that behavior is rebutted, and rebutted firmly, there is no real-world prospect of this aggression petering out.

Nordic intrigue

As a codicil to this chapter, and a segue into the next, consider one more example of how the PRC prosecutes its authoritarian ambitions around the world and has been doing so for quite some time. In 2010, two years before Xi became general secretary of the CCP, Liu Xiabo, a dissident jailed in China in 2009 for writing a petition to end one-party rule, was being considered for the Nobel Peace Prize, which is given out by the Nobel Committee in Norway. Prior to the committee's decision, the Chinese Embassy warned the Norwegian government, which has no control over the Nobel Peace Prize, that if the award was given to a "criminal" it would "damage" diplomatic ties between Norway and China.[116]

When, despite the pressure, Liu Xiabo was indeed awarded the Nobel Prize, China made good on its threats.

Diplomatic relations were frozen, and it targeted Norwegian salmon with import controls. At that point in time, salmon was not a very significant proportion of Norway's overall exports, or its exports to China.[117] But since salmon is among Norway's best-known products internationally, the restrictions served two purposes at once: (1) to warn everyone else that what had happened to Norway could happen to them; and (2) to warn Norway itself that it could face an escalation if it failed to show obedience to Beijing.

By 2015, Norway began bending under Chinese pressure. To the consternation of humanitarians around the world, the Norwegian government, while engaged in intensive efforts to repair relations with Beijing and reboot exports, deliberately snubbed the Dalai Lama who was on a visit to Norway to celebrate the twenty-fifth anniversary of his own Nobel Peace Prize.[118] As a reward for the snub, full diplomatic relations were restored between Beijing and Oslo the following year.[119]

There are plainly a lot of things one could say about all this, but two stand out. First, if wealthy Norway won't risk even a small financial hit to preserve its integrity and values, who will? The second is that democracies can only counter Beijing's aggression if they stick together. Unfortunately, as soon as restrictions were placed on Norway's salmon exports, companies from Chile, Canada, the United Kingdom, and the Faroe Islands quickly moved to grab the vacant market share.[120] While it is easy, and indeed right, to criticize Norway, the saga also demonstrates that as long as there is no expectation of solidarity among allied democracies in the face of Beijing's encroachments, those same allied democracies are also complicit in the PRC's policy of divide and rule.

"...THE CHALLENGE TO THE WORLD'S DEMOCRACIES MOUNTED BY CHINA TODAY IS NOT ONLY DIFFERENT FROM THE ONE MOUNTED BY THE SOVIET UNION, BUT POTENTIALLY MORE DIFFICULT TO DEAL WITH."

CHAPTER 3
THE BUSINESS OF TYRANNY

On the northeast coast of the Saronic Gulf, between the peninsulas of Attica and Argolis, lies the ancient Greek port of Piraeus. Strategically located on NATO's southern flank and positioned now to become the world's greatest trade hub between Europe and Asia, it was bought in 2016 by Chinese shipping firm COSCO.[121] A year later, Greece vetoed the European Union at the U.N. Human Rights Council when Brussels tried to organize a statement critical of the government of China's persecution of its citizens. It was the first time that the EU had been unable to garner the necessary unanimity to propose a resolution on human rights at the U.N. body.[122] One year after that, in 2018, the Greek government formally announced that it was joining China's One Belt One Road Initiative, for which Beijing has made infrastructure investments in more than sixty countries since 2013.[123]

Meanwhile in the United States, Micron Technology, a chipmaker in Idaho, specializes in dynamic random-access memory (DRAM) semiconductor data-storage technology. The $50 billion tech firm is the only U.S. company that makes such chips. In DRAM, it has a global market share of over 20 percent, and in the flash memory market, it has a share above 12 percent. It is a formidable company. China knows that, too. As a result, it dispatched fraudsters to steal Micron's technology. It then patented it in China and, incredibly, proceeded to sue Micron in the Chinese courts for patent infringement.[124]

In a final example, Rosy Ferry, of Great Britain, was searching for her favorite eye makeup on eBay when she came across what seemed to be a bargain: limited-edition Christian Dior eye shadow for a third less than the recommended retail price. When the delivery arrived, the packaging was not the standard Dior velvet pouch but a box covered in Chinese customs labels. Still, a deal is a deal, so Ferry applied the eye shadow. The next morning, she awoke to darkness: her eye lashes were glued together. After a hot-water eye bath, her sight was restored. Later, her skin blistered, and flaked off.[125] In addition to the pain and the humiliation, Ferry had also been a victim of China's $258 billion a year counterfeit economy.[126]

Each of these three stories is an illustrative tale of modern economic globalization and China's place within it. In the first, the PRC was able to blackmail a country's government into remaining silent on Chinese human rights abuses while simultaneously compromising EU foreign policy. With Micron, Beijing demonstrated its calculated strategy of stealing the building blocks of the digital economy of the future. In the third example, it proved its reckless disregard for the well-being of anyone while reaping the profits from its voluminous counterfeit economy.

Collectively, these stories illustrate a troublesome and tangled dimension of the China challenge for democracies (and indeed non-democracies) which, of course, benefit from globalization, too. Perhaps that is one reason why, for

so long, they have failed to take that challenge seriously. Although European allies are trying to help Greece see the light, the U.S. Department of Justice is investigating the Micron affair, and companies and law enforcement agencies are increasing pressure on China over knockoffs, Beijing is so far undeterred.[127] It is easy to miss how comprehensive, well thought out, and strategic Beijing's overall economic ambitions are and how ruthless it is in prosecuting them.

Belts, roads, projects, and silk

In separate speeches in Kazakhstan and Indonesia in 2013, Xi Jinping announced the One Belt One Road Initiative, a massive infrastructure investment program in foreign countries.[128] It can be divided into two parts, sometimes referred to as the Silk Road Economic Belt and the Maritime Silk Road (see map), though subsets include the Polar Silk Road (see Chapter 5) and the Digital Silk Road (see Chapter 4). Xi has called the One Belt One Road Initiative a "master plan," and it exists in conjunction with other major development projects, such as Made in China 2025 and China Standards 2035, which focuses on digital.[129,130]

The One Belt One Road Initiative (see Figure 3.1) is arguably the most ambitious, global infrastructure project ever launched.[131] It has financed railways, bridges, highways, power grids, and many other infrastructure assets across Asia and beyond. In total, China has already spent an estimated $200 billion on One Belt One Road projects. Morgan Stanley predicts investments undertaken for such projects could total $1.2 to $1.3 trillion by 2027.[132]

In one respect, it is an impressive and praiseworthy contribution to the development of the Chinese economy itself and the Asian and world economies generally. But it is also a double-edged sword, as it simultaneously promotes the CCP's geopolitical ambitions to create political leverage, and even subservience,

One Belt One Road initiative creates a global infrastructure network
China uses, acquires and builds railroads, ports and pipelines

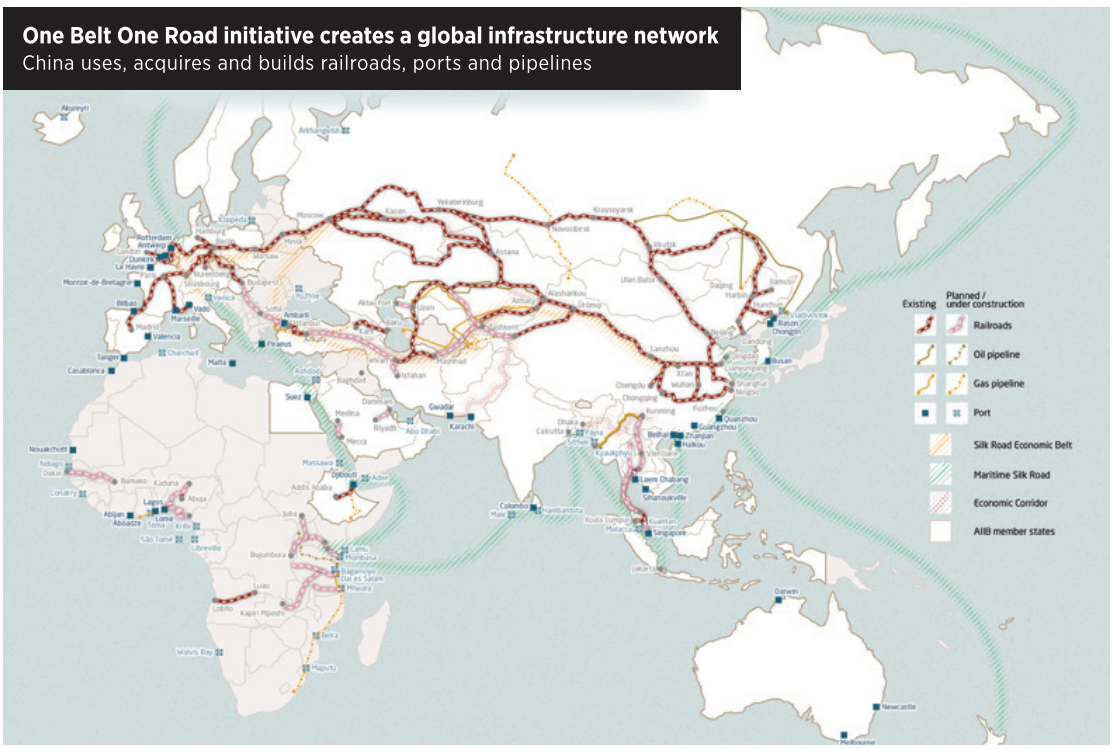


Figure 3.1 *Map of One Belt One Road Initiative. Source: Mercator Institute for China Studies*

in dozens of countries across the globe. As the Greece example demonstrates, Beijing is not afraid to call in the favors it believes it is owed.

Greece is not alone. There are many examples to choose from. In a now infamous saga, Sri Lanka has also fallen victim to Chinese economic bullying and bribery. The tangled web surrounding the Hambantota Port Development Project offers salutary lessons. A *New York Times* investigation found, "Over years of construction and renegotiation with China Harbor Engineering Company, one of Beijing's largest state-owned enterprises, the Hambantota Port Development Project distinguished itself mostly by failing, as predicted. With tens of thousands of ships passing by along one of the world's busiest shipping lanes, the port drew only 34 ships in 2012."[133] Sri Lanka struggled to pay Chinese companies billions in debt for the failed project. In December 2017, the strategically positioned port and 15,000 acres of land were handed over to China on a ninety-nine-year lease. The whole house of cards had been put up inside a cloud of sketchy dealings between China and Sri Lankan President Mahinda Rajapaksa, whose 2015 election campaign, the *Times* found, received at least $7.6 million from Chinese sources.[134]

To diversify, not to decouple

As China has modernized, it has captured a commanding position in global supply chains. Yet at the same time, the laws of economics and demographics have begun to change its economic position. From a labor shortage due to the CCP's draconian former One-Child Policy to rising wages for laborers, Chinese manufacturers have become less competitive, especially in lower-value-added industries.[135] As a consequence, Chinese producers have been losing market share since the mid-2010s in some sectors. The Trump administration's trade policies to reduce America's deficits with China exacerbated this trend by placing tariffs on Chinese goods and forcing U.S. companies to consider new manufacturing partners.[136]

During the COVID-19 pandemic, most nations learned that they were dangerously dependent on Chinese producers for medicines; basic personal protective equipment (PPE), such as masks and gloves; and more complicated medical equipment, such as ventilators.[137] When Chinese companies shipped millions of pieces of defective medical equipment around the world, global outrage only grew at the vulnerabilities in the global supply chain.[138] Other reports told of how Beijing was holding up the export of protective masks made in China by U.S. companies like 3M, essentially diverting them to domestic Chinese use.[139] In response, the Trump administration and Congress explored mandates for onshoring production of medicines and PPE in the United States.[140]

Other major economies, such as Japan, went even further. In late spring 2020, then–Prime Minister Shinzo Abe unveiled a $2.2 billion program to bring Japanese-owned production back from China. Nearly ninety Japanese companies were eligible to receive government aid to relocate production. Of those companies, two-thirds—almost sixty firms—stated they would be opening production facilities in Japan, while the remaining one-third would be expanding production in Southeast Asia, in countries eager to begin moving up the value-added chain but who had previously found it impossible to do as Chinese firms dominated global manufacturing.[141]

This coronavirus-inspired shift in production is a reminder of how

globalization had made democratic economies dangerously dependent on China and how each is now belatedly waking up to the risk. While labor groups have long worried that unbalanced free trade with China was destroying domestic manufacturing, impoverishing the working class, and hollowing out blue-collar communities around the world, it took COVID-19 to shock countries into doing something about it.[142]

As most observers note, full "decoupling" from China is neither possible nor desirable.[143] It is by far the number one exporter to seven of the nine biggest economies (after China), accounting for 22 percent of U.S. imports, 15 percent of India's, 23 percent of Japan's, 10 percent of Germany's, 22 percent of Russia's, and 19 percent of Brazil's. China is also the top export market for Japan, Indonesia, Brazil, South Korea, and Australia.[144] Australia, in particular, sends 35 percent of its exports to China, a fact clearly not lost on Beijing: in 2020, it imposed an 80 percent tariff on barley and cut off beef imports in retaliation for Australia's support of an investigation into the origins of the coronavirus.[145]

Chinese firms' significant cost advantage, fueled in part by the use of forced labor, kept the PRC's exports competitive amid the coronavirus economic downturn and steep tariffs imposed by the Trump administration. As *The New York Times* reported at the end of August 2020, "Such a cost advantage has helped drive China's share of world exports to nearly 20 percent in the April-to-June quarter this year [2020], up from 12.8 percent in 2018 and 13.1 percent last year."[146]

Blackmail and the debt trap in the third world

China's economic authoritarianism is not just seen in the global north. In Africa and throughout Central Asia, Chinese companies are becoming increasingly ubiquitous, throwing up apartment blocks, paving roads, or building port facilities. Some of these are One Belt One Road programs and others are not. Beijing sometimes furthers its national interests by also linking a military component to its development programs, a phenomenon sometimes referred to as "debt-trap diplomacy."[147]

In Djibouti, in the Horn of Africa, where China opened its first overseas military base in July 2017, the military plan was tied to development aid.[148] As noted by one scholar, "this cost of doing business with China, or of accepting Chinese foreign aid, often emerges only after deals have been struck, increasingly to the benefit of China's military."[149]

"Beijing sometimes furthers its national interests by also linking a military component to its development programs, a phenomenon sometimes referred to as 'debt-trap diplomacy'."

The question of debt-trap diplomacy also goes to governance issues (see the Sri Lanka example above). Throughout Africa and Asia, Beijing has been making loans for years to governments, often directly bribing local officials and buying off elites. These loans include few human rights or environmental protections: typically, the only strings attached require Chinese businesses to provide services, usually construction. Chinese workers are hired and sent to the project in question, where they shop at Chinese-owned stores. When construction is complete, or often abandoned, the

Chinese construction crews depart, taking their earnings with them and leaving environmental damage behind. The "benefits" to recipient countries can be measured in the amount of debt they take on versus largely illusory gains in trade and productivity.[150]

Competitive advantage: counterfeits, theft, and slaves

China's economic rise has been remarkable. According to the World Bank, since the CCP's economic reforms began in earnest in the late 1970s, GDP growth has been almost 10 percent each year, helping lift more than 850 million people out of poverty.[151] China's economic success is often called a miracle and the envy of the world. But the truth is that some of it has been built on illicit behavior, including counterfeiting, cyber theft, and even slavery.

China's economy produces 70 percent of the world's counterfeit goods, which account for over 12 percent of Chinese merchandise exports.[152] The Commission on the Theft of American Intellectual Property estimates that IP theft costs the U.S. economy between $225 billion and $600 billion annually.[153] More than knock-off eye shadow, U.S. firms' trade secrets are the primary target of IP theft, amounting to 1 to 3 percent of GDP.[154] Often China targets biotechnology firms and next-generation tech companies for the same reason the United States boasts of them: such entities drive future growth and strategic advantage.

Indeed, stealing IP is a cornerstone of PRC industrial advancement and technological-development strategies. According to one report, China pursues its ambitions with "cyber-espionage, evasion of export control laws, counterfeiting and piracy, reverse

engineering, forced tech transfers, investment and licensing restrictions, data localization requirements, discriminatory IP protections, collection of science and technology information by Chinese nationals at universities, labs, and companies, and investments in private companies and university R&D programs."[155]

This is not new. In 2011, Dmitri Alperovitch, the vice president of threat research at McAfee, revealed operation Shady RAT, under which Chinese operatives had been using malware to compromise agencies and entities in the United States, the United Nations, and also the International Olympic Committee, among many others.[156] Two years later, the Mandiant Report set out yet more evidence. Its research traced the activities of Chinese cyber criminals, with links to the People's Liberation Army, going back to 2006.[157] For many years, little was done to combat this. But recently, Washington in particular has been adopting a tougher line. During 2020, the Trump administration began to crack down on Chinese operatives studying at U.S. research institutes who illegally concealed their active military status. Some of them had been ordered to collect sensitive information or cutting-edge research and were assisted by Chinese diplomats in erasing evidence of their true employers.[158]

It is, of course, the crossover between Chinese intellectual property theft and the defense sector that raises the stakes of such rampant criminal activity to the strategic level. Referencing a report prepared for the Pentagon and representatives of the U.S. defense industry, *The Washington Post* noted that "designs for many of the nation's most sensitive advanced weapons systems have been compromised by Chinese hackers." A senior American military official said: "This is billions of dollars of combat advantage for China. They've just saved themselves 25 years of research and development. It's nuts."[159]

The infamous 2015 hack of the U.S. Office of Personnel Management (OPM) by Chinese hackers was, or at least should have been, a wake-up call, not only to the sophistication but to the extent of China's information theft. According to the hack post-mortem, the attackers "gained access to every nook and cranny of OPM's digital terrain."[160] *Wired* magazine reported on the incursion: "hackers delved into the complete personnel files of 4.2 million employees, past and present. Then, just weeks before OPM booted them out, they grabbed approximately 5.6 million digital images of government employee fingerprints."[161] In the end, the investigation found that more than twenty-two million Americans had their personal information compromised.[162] Chinese hackers also broke into data banks of U.S. insurance companies, stealing financial and medical information of millions more Americans. As FBI Director Christopher Wray put it in July 2020: "If you are an American adult, it is more likely than not that China has stolen your personal data."[163]

Hacking is not the only crime China commits. It is a global center of slavery. In 2016, the Global Slavery Index estimated there were more than 3.8 million people living in conditions of modern slavery in China. Because the government profits from slavery and forced labor—it fuels the growing economy that undergirds political stability—Beijing does little to combat such practices. There are no laws requiring businesses to disclose the use of modern slavery in production.[164]

Worse than ignoring the problem, the CCP supports it. The PRC forces prisoners to produce goods intended

for export. Uyghur detainees, and others, are subject not only to torture, political indoctrination, and forced renunciations of faith; they are forced to work, including in the cotton industry. As Reuters reported, "more than 80% of China's cotton comes from northwestern Xinjiang, which is home to about 11 million Uighurs."[165]

Pulling all this together provides yet another overwhelming raft of evidence that if anyone is launching a Cold War it is Beijing. U.S., British, and German governmental institutions and companies are not engaged in a relentless campaign of intellectual property theft in China. Neither are they flooding the Chinese market with counterfeit goods. Indeed, in view of China's continued restrictions on access to much of its domestic market, the world's democracies find themselves in the extraordinary situation that, in important respects, it is easier for China to export fake products to them than it is for democracies to export legitimate goods to it.

Demand chains

How does the West deal with the challenge from an authoritarian behemoth that is embedded in the global economy and is therefore materially connected to its own prosperity? Painful as it may sound, it will require sacrifice. If no country is prepared to sacrifice anything at all, the world's democracies must have the moral courage to acknowledge their own complicity in economic practices that are in some respects outright criminal.

For what do all the illustrations drawn at the beginning of this chapter have in common, beyond China's own actions? What they have in common is that democracies allowed each to happen. Greece was not forced to accept a Chinese buyer for the port of Piraeus. The United States did not take the threat of intellectual property seriously enough to protect Micron until it was too late. Nor are Western consumers somehow fated to buy counterfeit goods. For too long, democracies have paid only lip-service in their opposition to the CCP's criminal practices, while knowing full well that trade with China means that their economies are, to a significant extent, effectively in receipt of stolen goods.

To repeat and underline: democracies are faced with the most powerful authoritarian state in history. In the economic domain, the supply chain is not necessarily the biggest problem. It is the "demand chain" from Western governments and consumers that helps fuel this. So long and in so far as this continues, democracies are effectively offering China what contract lawyers refer to as an "implicit waiver." That is neither an ethically sustainable proposition, nor one that is in democracies' long-term interests.

CHAPTER 4
CHINA'S TECH AUTHORITARIANISM

In January 2018, *Le Monde Afrique* newspaper published an investigative article on Chinese data theft at the African Union's (AU) new headquarters in Addis Ababa. The $200 million complex, whose nineteen-story main building imposingly decorates the Ethiopian capital's skyline, was funded entirely by China and built by the China State Construction Engineering Corporation. The AU headquarters hosts high-level meetings involving heads of government, business leaders, diplomats, and officials from across Africa, as well as dignitaries from around the world.[166]

At the ceremonial opening in 2012, Jia Qinglin, then chairman of the National Committee of the Chinese People's Political Consultative Conference, spoke gushingly about the international community's obligations to help resolve Africa's problems. He said: "China believes that such help should be based on respect for the will of the African people and should be constructive. It should reinforce, rather than undercut, Africa's independent efforts to solve problems. Interference in Africa's internal affairs by outside forces out of selfish motives can only complicate the efforts to resolve issues in Africa."[167]

Yet, as the *Le Monde* investigation discovered, from that very day, and on every day subsequently for five years, computer servers in the AU building began secretly transferring masses of data to servers in Shanghai. Listening devices were also found embedded in the walls and desks. Every briefing, every off-the-record conversation, every private audience between presidents had been recorded and sent to China. In response, China's ambassador to the AU called the report "absurd" and admonished *Le Monde* in the high-handed manner that has now become typical of Chinese officials abroad. In short order, the report was confirmed by the *Financial Times* and others.[168]

The protagonists most closely involved in furnishing and equipping the AU headquarters' data and communications infrastructure were Huawei and Chinese telecoms giant ZTE. A 2017 report from McKinsey described the two companies as being responsible for the construction of "most of Africa's telecoms infrastructure."[169]

In a sense, the outright theft of data or espionage using bugging devices, or telecoms and information and communications technology, is at the more accessible end of a discussion that can easily confound all but the most technologically savvy. In research interviews with China observers around the world, HFX frequently heard open admissions that people did not completely understand, for example, the precise mechanism by which Huawei's involvement (now rescinded) in Britain's 5G infrastructure could compromise the United Kingdom's national security.

While there are some matters—"standards," and what artificial intelligence is doing to data privacy and protection chief among them—where it

may be necessary to get involved in the weeds of the conversation, it is more important for policymakers to understand some key precepts about what is at stake in the digital revolution generally and Chinese ambitions to dominate it in particular. The technology continues to evolve, and it does so faster than most of us can keep up with.

Planning for victory

The default assumption, not entirely false up until recently, is that the internet is a largely anarchic, ungoverned space. What laws exist are minimal in comparison with the scope of what it is possible to do and to say, to download and to upload. One consequence of this is that, even in free societies, major questions are now being debated about privacy, the ability of big tech companies to follow people's movements—literally with apps like Uber or Lyft—to track every website ever opened, and then to either use that data for profit themselves or to sell it to third parties without the ordinary user's explicit permission or even knowledge.[170]

If private companies can get access to such data, so can the state. The civil liberties implications in democracies are profound enough. But what if all of that data could be mined by an authoritarian state where there are no legal or external safeguards? What if algorithms powered by ever more sophisticated artificial intelligence were making the task of mining personal data exponentially faster and more efficient? What if an unprecedentedly large authoritarian state, fast becoming the richest country in the world with an increasing proportion of the biggest and most cutting-edge tech companies, was now aiming to reconfigure the way the internet works to optimize its own objectives and values? And what if it could embed all, or even some, of this inside the very technology that operates the devices that are not only used by its own citizens, but increasingly by the citizens of the world's democracies, too?

These are not rhetorical questions: Beijing is doing all in its power to make each of these scenarios a reality. In 2015, China launched its Digital Silk Road Initiative. As Clayton Cheney, a fellow at the Pacific Forum, explained, "[It] has both foreign and domestic policy objectives."[171] The initiative includes Chinese efforts to invest abroad in 5G networks, fiber optics, and digital infrastructure; invest and research at home in quantum computing and artificial intelligence; promote digital free-trade zones to enhance ecommerce; and become dominant in global institutions on governance of the internet and the setting of technological standards. Central to this strategy is promotion of China's core principle of "cybersovereignty" in U.N. bodies and elsewhere, which, in a nutshell, effectively comes down to establishing an international norm giving authoritarian states the right to censor the internet.[172] In sum, Cheney, explained, "While China's Digital Silk Road has the potential to enhance digital connectivity in developing economies, it simultaneously has the capacity to spread authoritarianism, curtail democracy, and curb fundamental human rights."[173]

The Digital Silk Road is part of an impressively wide-ranging plan of action demonstrating in no uncertain terms that Beijing is fully aware of the stakes in the contest to lead the digital future and that it intends to emerge as the winner. For example, in 2017, the CCP issued a plan that identified artificial intelligence (AI) as a "strategic technology that will lead the future" and, in an admirable display of seriousness, made clear where China was lagging behind on basic theory, core algorithm,

and high-end chips. After admitting its limitations, the plan made clear the country was resolutely determined to overcome them, instructing all Chinese state agencies to "advance the deepening of AI applications in the field of public safety" and "promote the construction of public safety and intelligent monitoring and early warning and control systems."[174] In evaluating the plan, Fabian J. G. Westerheide, the CEO of AI for Humans, described China as being on track to become "the first global superpower for artificial intelligence."[175]

Beijing's plans do indeed have global implications. Summarizing the issue in a seminal paper on China's international aspirations in tech, Samantha Hoffman, an analyst at the Australian Strategic Policy Institute's International Cyber Policy Centre, argues: "The Chinese party-state's tech-enhanced authoritarianism is expanding globally. This expansion isn't always distinctly coercive or overtly invasive... By leveraging state-owned enterprises (SOEs), Chinese technology companies and partnerships with foreign partners—including Western universities—the CCP is building a massive and global data-collection ecosystem."[176]

China has been working to undermine the very idea of an open digital order, something that proceeds directly from the nature of the regime. In another announcement from 2017, the Chinese Foreign Ministry published the country's *International Strategy of Cooperation on Cyberspace*. In a truly Orwellian segment of the document, it read, "China supports a free and open Internet." But it quickly followed with: "Like the real world, freedom and order are both necessary in cyberspace. China pursues effective governance in cyberspace to promote free flow of information while ensuring national security and public interests."[177] Plainly, China has no intention of supporting a "free and open internet." Its so-called Great Firewall, which aims to block anything that the CCP regards as subversive, demonstrates its view of the ideal scenario. Though not completely watertight, this covers an extensive range of sources and social media platforms, including Google, Facebook, Wikipedia, and Twitter, none of which Chinese citizens are allowed to access.[178] The Great Firewall of China does not apply to everyone in the world yet. But if China gets its way on international governance of the internet, it is coming.

Trojans of tech

The place of China's increasingly formidable tech companies in this debate offers a useful stepping-stone to those crucial matters of global governance and standards. Chinese internet companies occupied five of the top twenty by market cap in 2019 (see Figure 4.1).[179] Three of those—Tencent, Alibaba, and Baidu—have been fixtures of the top global tech companies for more than five years, and Tencent even grew bigger than Facebook in July 2020, swelling to $664.5 billion.[180] Volatility in the tech sector notwithstanding, Chinese technology companies are here to stay. As many of those consulted for this handbook readily conceded, this success is undoubtedly because each is an exceptionally well-run company, offering world-class products and services.

Yet, the CCP's ambitions need to be viewed holistically. Like much else China does abroad, these companies are part of a bigger plan. It is naïve to view China's moves as mere tactics, or ad hoc responses conjured up on the spur of the moment. There is a strategy that China has devoted enormous amounts of time and effort to. The nexus between the CCP and China's tech companies forms part of that strategy. It is one of the

most vexatious and potentially confusing matters with which the democratic world's policymakers must contend. What is going on?

Huawei, the Chinese telecommunications equipment developer, offers an illustrative case study. In January 2019, the U.S. Department of Justice (DOJ) announced a thirteen-count indictment against the company for alleged crimes, including theft of trade secrets, wire fraud, and obstruction of justice.[181] Incredibly enough, the DOJ even had to call out Huawei for an internal company announcement "offering bonuses to employees who succeeded in stealing confidential information from other companies."[182] Among other violations referred to were multimillion-dollar transactions designed to help Iran evade sanctions put in place by the United States over its nuclear program.

Why would a purely private company get involved in sanctions-busting in aid of one of America's and the Western world's most implacable enemies? As Christopher Ashley Ford, the U.S. assistant secretary of state for international security and

Rank			Market Cap Value ($B)		
2019	Company	Region	6/7/19	6/7/16	% Change
1	Microsoft	USA	$1,007B	$410B	+146%
2	Amazon	USA	888	343	+159%
3	Apple	USA	875	540	+62%
4	Alphabet	USA	741	497	+49%
5	Facebook	USA	495	340	+46%
6	Alibaba	China	402	195	+106%
7	Tencent	China	398	206	+93%
8	Netflix	USA	158	43	+266%
9	Adobe	USA	136	50	+174%
10	PayPal	USA	134	46	+190%
11	Salesforce	USA	125	56	+123%
12	Booking.com	USA	77	67	+15%
13	Uber	USA	75	--	--
14	Recruit Holdings	Japan	52	20	+167%
15	ServiceNow	USA	51	12	+316%
16	Workday	USA	48	16	+197%
17	Meituan Dianping	China	44	--	--
18	JD.com	China	39	32	+22%
19	Baidu	China	38	60	(36%)
20	Activision Blizzard	USA	35	28	+25%
21	Shopify	Canada	34	2	+1,297%
22	NetEase	China	33	23	+44%
23	eBay	USA	33	28	+19%
24	Atlassian	Australia	32	5	+509%
25	MercadoLibre	Argentina	30	6	+388%
26	Twitter	USA	29	11	+173%
27	Square	USA	29	3	+808%
28	Electronic Arts	USA	29	23	+25%
29	Xiaomi	China	28	--	--
30	Spotify	Sweden	25	--	--
	Total		$6,119	$3,064	

Figure 4.1 Today's top twenty worldwide internet leaders.
Source: Mary Meeker, Bond Capital

nonproliferation, explained: "Though they may have formally private ownership and operate in the national and in the international marketplace, global Chinese firms—including Huawei—are in key ways not genuinely private companies and do not make decisions entirely for economic and commercial reasons. Whether de facto or de jure, such giants can in some important respects or for some purposes act as arms of the state—or, more precisely, the Chinese Communist Party, to which the Chinese state apparatus is itself subordinate."[183]

Put bluntly, Ford continued: "Firms such as Huawei, Tencent, ZTE, Alibaba, and Baidu have no meaningful ability to tell the Chinese Communist Party 'no' if officials decide to ask for their assistance."[184] In June 2020, in a move that some believe has been too long in the coming, the U.S. Federal Communications Commission designated Huawei and ZTE as threats to U.S. national security, saying the two companies "have close ties to the Chinese Communist Party and China's military apparatus."[185]

any other Chinese tech company, need therefore to be seen as "strategic" and not just business or technological.

Ruling the digital revolution

Standing atop the discussion of the digital revolution generally, and China's place within it in particular, is the question of who gets to decide the rules and mechanisms that govern how the internet and its related technology work and are used. The key to understanding China's ambitions regarding global governance of the internet is, as ever, to keep in mind the CCP's overriding aim of remaining in power and neutralizing any perceived threat to it, however small and wherever it may be.

In December 2016, the State Council of the People's Republic of China released a statement accompanying the publication of a *National Cyberspace Security Strategy*. It underlined for all to see how seriously the CCP takes the potential threat that the internet poses: "China will use whatever means necessary—scientific, technological, legal, diplomatic or military—to ensure cyberspace sovereignty. No attempt to use the internet to undermine or overturn China's national regime or sabotage sovereignty will be tolerated."[187]

"The key to understanding China's ambitions regarding global governance of the internet is, as ever, to keep in mind the CCP's overriding aim of remaining in power and neutralizing any perceived threat to it, however small and wherever it may be."

The linkage in China between the military and civilian spheres, known as military-civil fusion, is a direct consequence of the nature of the Chinese regime. The NATO Cooperative Cyber Defence Centre of Excellence also noted in a 2019 report, "Chinese companies are required by law to cooperate with their government in support of Chinese national interests, including participation in intelligence activities."[186] Matters such as the roll-out of 5G involving Huawei, or indeed

"Cybersovereignty" is a catchphrase that occurs again and again in Chinese official discourse. But in a globalized word, securing the domestic arena is not enough. China has at least 750 million internet users but there are billions around the world, and the Great Firewall

can only keep so many of them at bay.[188] It is thus no surprise that the Cyberspace Security Strategy explicitly affirms China's ambition to "promote the reform of the global Internet governance system."[189] The party-state's ambitions for reform include enshrining cybersovereignty and the CCP's interpretation of it into international laws, norms, and regulations. It also includes a strategy for influencing "standards," a concept that can be difficult for nonexperts to grasp.

In a briefing report on China, Dezan Shira & Associates explained: "Simply put, the tech industry, along with other industries worldwide, use standardized processes and specifications to ensure that products are built to work together seamlessly. If each country or company set its own standards, technologies would not be able to easily work with products designed by other companies or work in other markets."[190] To ensure interoperability—that a mobile phone can work when one travels abroad, for example—rules and standards must be set to avoid fragmentation of markets.

If an authoritarian state, or a company in the pocket of an authoritarian state, designs a technological product, it will want to ensure, as far as it can, that the product suits the interests of that authoritarian state. Tech might be designed to scoop up data to be shared with the state, or standards might be set that allow such behavior instead of protecting values like privacy. The risks of both scenarios are especially acute: as AI advances, it vastly improves the efficiency of mining and sorting through data. A crucial point to internalize here is that technology is not necessarily apolitical or agnostic. Politics intrudes, whether one likes it or not.

Although such issues may seem too technical or too esoteric, they are being decided right now at institutions such as the United Nation's International Telecommunication Union, the Internet Corporation for Assigned Names and Numbers, the Internet Governance Forum, the Internet Engineering Task Force and others.[191] In so far as it is able, China is aggressively pushing its agenda in these bodies. As one scholar summarized China's approach: "From the official point of view, the existing global Internet governance system is still dominated by Western countries, particularly the United States, in terms of Internet resources, technology standards, international norms, and ideological discourse."[192]

Such matters are hotly debated in tech circles, and questions of data privacy are also fiercely contested with reference to U.S. tech giants, as noted above. The point at issue is that the standards set can have societal implications, and if a state can influence or control global standards then there is likely to be a temptation to set those standards in accordance with that state's own interests. The CCP has made it abundantly clear what its interests and values are. As one analyst explained in an interview for HFX, "Facial-recognition technology designed by China is going to be set according to a standard that will suit the CCP."

As indicated by Beijing's broader digital strategy, Beijing is hoping to push this pivotal moment in technological achievement in its favor. Some observers have warned about believing "China's own hype"[193] and that it will not ultimately be in China's interests to radically change the way global standards are set. But the world has been surprised before at China's ingenuity and the speed at which it realizes its ambitions. Vigilance, therefore, seems reasonable.

To entertain and misinform

Along with the kind of cyber espionage illustrated at the top of this chapter, the most direct way in which China is using digital tools to assault the world's democracies is through social media. After years of ignoring the problem, countries are finally beginning to wake up to the dangers, and policy responses are being cobbled together in real time. In June 2020, India banned the Chinese video-sharing platform TikTok and dozens of other apps, including WeChat, for allegedly "stealing and surreptitiously transmitting users' data in an unauthorized manner … which ultimately impinges upon the sovereignty and integrity of India."[194] In early August 2020, the Trump administration did the same, moving to ban TikTok and WeChat from the United States, citing national security concerns.[195]

But it is the use and abuse by Chinese operatives of U.S. social media platforms such as Facebook and Twitter that gets to the heart of the matter. In March 2020, *ProPublica* released the findings of an in-depth analysis of "thousands of fake and hijacked Twitter accounts to understand how covert Chinese propaganda spreads around the globe."[196] Since August 2019, ProPublica "tracked more than 10,000 suspected fake Twitter accounts involved in a coordinated influence campaign with ties to the Chinese government. Among those are the hacked accounts of users from around the world that now post propaganda and disinformation about the coronavirus outbreak, the Hong Kong protests and other topics of state interest."[197]At the same time, Twitter announced in a press release the disclosure of 936 accounts originating in the PRC that were "deliberately and specifically attempting to sow political discord in Hong Kong, including undermining the legitimacy and political positions of the protest movement on the ground."[198] Twitter said it was sure that this was part of "a coordinated state-backed operation," which also involved "a larger, spammy network of approximately 200,000 accounts."[199]

In July 2020, Stanford University's Internet Observatory in conjunction with the Hoover Institution published a report outlining the CCP's campaign to "shape global narratives" with both overt and covert capabilities. The former include the expansion of China's state news agency, Xinhua, and China Radio International, which has "contracts to broadcast from more than a dozen radio stations in the United States alone, while *China Daily* places inserts in newspapers such as the *Washington Post*, for as much as $250,000 an issue."[200]

Covert capabilities include the use of so-called "content farms" that "mass produce clickbait articles." For example, "content farms with a covert political agenda promote pro-China stories while also amplifying or initiating denigrating rumors about political opponents, such as Taiwan's government under President Tsai Ing-wen."[201] On social media, the report inter alia referenced "allegations by Reddit moderators on a series of subreddits, noting the presence of what appeared to be coordinated efforts to downvote negative commentary on China in general and Chinese company Huawei in particular, and to upvote or push pro-CCP content."[202] The list could go on and on.

Presumption of guilt

In examining China's approach to the digital revolution, there can be no doubt that it is fully integrated with the CCP's most critical interests and ambitions. It has set those interests and ambitions in

opposition to the free and open society. The free and open society, therefore, has no choice but to respond accordingly.

While there is still a long way to go in democratic governments' understanding of the ramifications of the PRC's tech authoritarianism, the picture is not entirely bleak. In 2020, after a long and winding journey, Prime Minister Boris Johnson of Great Britain finally came around to banning Huawei from building the United Kingdom's 5G infrastructure.[203] The road to that decision was not an easy one. Huawei was offering a solution that might have saved the British taxpayers billions of pounds compared with alternative arrangements for introducing 5G. The British prime minister was understandably concerned about his people's economic interests, while advice about the security risks was neither definitive nor easy to understand.

But when all is said and done, all the British government needed to know was (a) that Huawei can mine data and send it back to China; (b) Huawei is, or at least can be, an instrument of an authoritarian Chinese state that aims to undermine democracies everywhere; (c) getting control of data is what can give that kind of protagonist the wherewithal to accomplish such malign aims and, therefore, (d) where there is even the slightest risk to national security, sovereignty, or democratic rights, Chinese tech companies must either be excluded completely or regarded as guilty until they can prove themselves innocent.

It is a sad state of affairs. But, once again, it is one that Xi Jinping's China has brought upon itself.

"WHILE THERE IS STILL A LONG WAY TO GO IN DEMOCRATIC GOVERNMENTS' UNDERSTANDING OF THE RAMIFICATIONS OF THE PRC'S TECH AUTHORITARIANISM, THE PICTURE IS NOT ENTIRELY BLEAK."

CHAPTER 5
STRATEGIC CALCULATION

On July 22, 2020, a day after U.S. Secretary of Defense Mark Esper had reiterated and underlined America's pledge to "live up to [its] commitments to Taiwan," including the imminent prospect of supplementary arms sales, the alert sounded in air-traffic control at Taiwanese air force bases.[204] Radar operators spotted an aircraft of initially unknown origin weaving in and out of Taiwan's airspace. "They're Chinese fighter jets. It's now a weekly occurrence," said a senior Taiwanese official speaking on the condition of anonymity in September. "It's about intimidation, and about warning the United States not to intervene. They're testing our ability to respond, and showing in deed what they have said in words: they will not renounce the use of force against Taiwan."

Amid the ongoing evisceration of Hong Kong's democracy, the people of Taiwan, ever watchful of events in the former British colony, look on nervously. As China ignores its commitments under international law to honor the Sino-British declaration guaranteeing the much-vaunted "One-Country, Two-Systems" arrangement, it is impossible for the twenty-four million inhabitants of Taiwan, 100 miles from the Chinese mainland, not to wonder whether events in Hong Kong are a prologue to their own future.

If Xi's words are anything to go by, they have plenty to worry about. In January 2019, he said ominously, "We make no promise to abandon the use of force, and retain the option of taking all necessary measures," stressing that the matter "should not be passed down generation after generation."[205] As Richard C. Bush, a fellow at the Brookings Institution, observed, "The first noteworthy item in … [Xi's] entire approach to Taiwan—is how he embeds the specific issue of unification into the signature theme for his now open-ended tenure as China's leader: the 'great rejuvenation of the Chinese nation.'"[206]

In other words, the threat to Taiwan is not mere rhetoric. It has been internalized into Xi's political personality as the Chinese leader, and it is thus intertwined with his credibility, his reputation, and the legacy he wants to leave. If the worst happens, no one can say that the world was not warned.

Taiwan stands on the front line of the CCP's worldwide challenge to democracy. As this handbook has shown, that challenge takes many forms, and it is making landfall in every part of the world. But in Asia—in Taiwan itself, Japan's Senkaku Islands, the increasingly militarized disputed islands in the South China Sea like Fiery Cross Reef, and the Himalayan wilderness on the Sino-Indian border—Beijing's cold war against democracy is always at risk of going hot (see Figure 5.1).[207]

The CCP's geostrategic ambitions

Beijing is increasingly bold and assertive, and not just in Asia. In June 2020, NATO Secretary General Jens Stoltenberg assessed the nature of the China challenge in the following terms: "It's

not about NATO moving into the South China Sea but about the fact that China is coming closer to us. We see them in the Arctic, we see them in Africa, we see them investing heavily in infrastructure in our own countries and, of course, we see them also in cyberspace."[208]

What may look like innocent and purely incremental steps at first risk developing into a pattern that, a decade or two hence, could transform the balance of military power and the effectiveness and relevance of military alliances.

The first steps in such a process may have already begun. Consider the following:

- In 2017, China established its first-ever overseas military base in Djibouti on the Horn of Africa, giving China strategic reach both into the Mediterranean via the

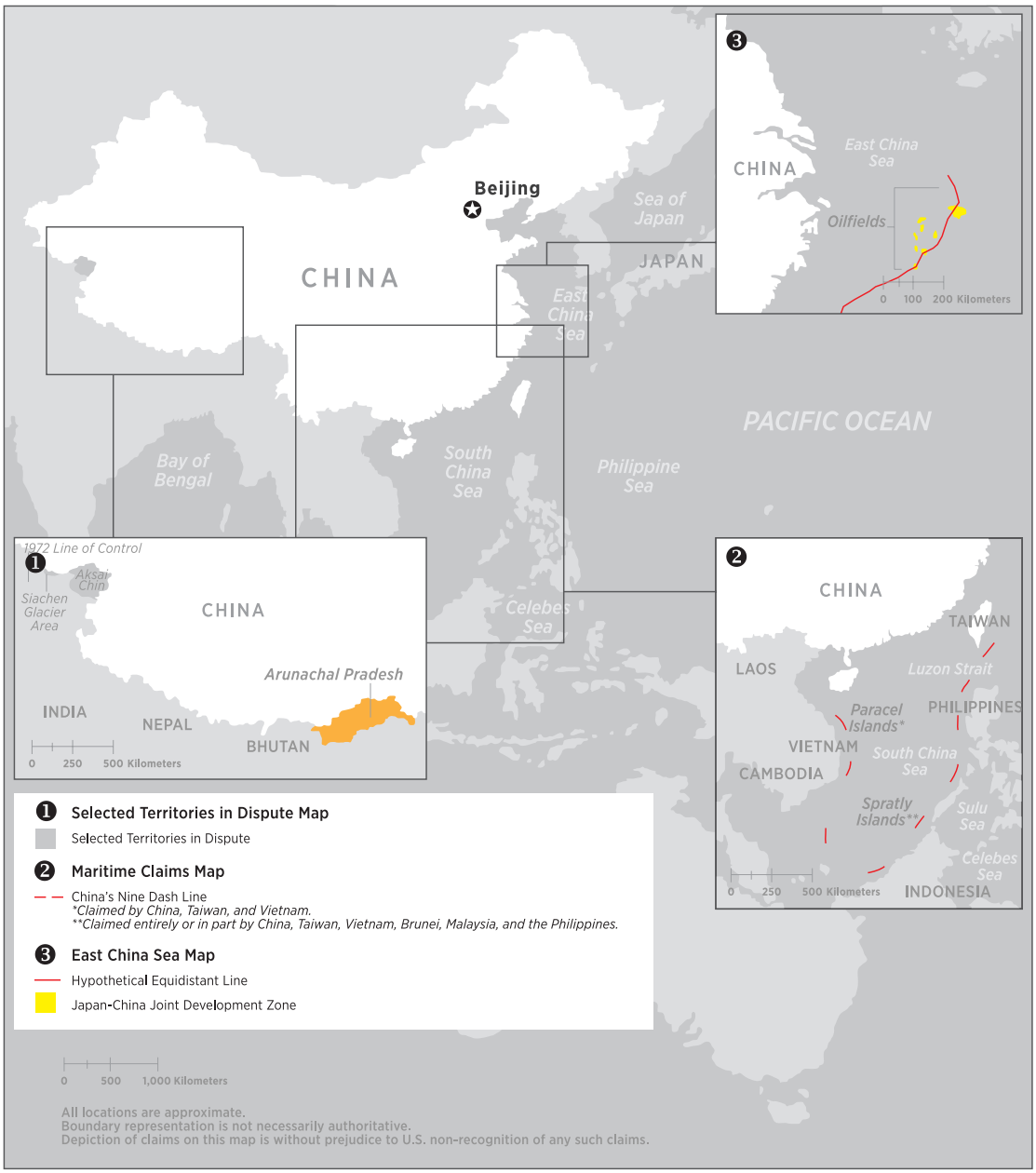


Figure 5.1 *China's flashpoints.*
Source: U.S. Defense Intelligence Agency

Suez Canal and into the Middle East.[209]

- In 2018, the Chinese Navy conducted its first exercise with EUNAVFOR, the European Union's naval force.[210]

- In 2019, China effected its first-ever deployment of military vehicles in Europe. In an operation in Germany named "Combined Aid 2019," the Chinese and German militaries conducted drills with medical-service units to respond to a future humanitarian crisis.[211]

- In 2019, Serbia, a NATO partner country, deployed six Chinese attack drones, making it the first European country ever to acquire Chinese airborne combat assets.[212]

- In 2019, the Chinese guided missile destroyer Xi'an docked in the French port of Toulon. Chinese Embassy Chargé d'Affaires Yu Jinsong described the visit as being of "special significance" for France and China. It would strengthen their "strategic partnership," he said.[213]

That list is far from exhaustive. But it is hard to see such moves as anything other than part of Beijing's larger geostrategy under which security moves complement its economic and political ambitions. Similar to rising countries in the past, China wants to control lines of communication between strategic points, secure resources, neutralize potential opposition, and gain strategically important access points and "allies," even if they are rented or bought.

Two case studies illustrate the direction of travel all too clearly.

In 2016, India's Ministry of Defense deployed two of its Poseidon 8I aircraft from a military base on Andaman and Nicobar Islands in the Indian Ocean.[214] The deployment was the result of frequent Chinese nuclear and conventional submarine activity, proof to some that China is intent on developing operational comfort and protecting sea lines of communication in the region. The concerns over the subs raised tension between New Delhi and Beijing but also within the region as a whole, with India pushing Sri Lanka to limit Chinese submarine visits to the Hambantota port (see Chapter 3).

The submarines are just one way Beijing has demonstrated its intent to exert its influence and power in South Asia. Some of this activity appears benign, including the Chinese contributions to the search for Malaysian aircraft MH370 in 2014. But its development of port relationships, installments of military equipment, and regular patrolling suggest China's military activity in the Indian Ocean is another part of its effort to expand its sphere of influence. Indeed, while it may still remain the case that the economic center of gravity for the democratic world remains in the Euro-Atlantic area, it is important to recognize that the global strategic point of balance is tilting toward the Indo-Pacific region. There is a vast contested strategic space all the way from the Western Pacific, the South and East China Seas, through to the Indian Ocean and the east coast of Africa. India, and the Indian Ocean in particular, are at the pivot of the multidimensional—strategic, economic, diplomatic—challenge that China poses in this contested space. It is therefore vital that India receives maximum support from the United States and its allies in helping meet this challenge.

A second case study shows how China is prepared to go to the ends of the Earth, literally. In January 2018, Beijing published a white paper titled "China's Arctic Policy." Even though the shortest distance between Chinese territory

and the Arctic is 900 miles, the paper argued: "Geographically, China is a 'Near-Arctic State,' one of the continental states that are closest to the Arctic Circle. The natural conditions of the Arctic and their changes have a direct impact on China's climate system and ecological environment, and, in turn, on its economic interests in agriculture, forestry, fishery, marine industry and other sectors."[215]

China aims to build a "Polar Silk Road" through Arctic shipping routes (see Figure 5.2).[216] The underlying economic incentives for China are clear when one considers how much more efficient an opening up of Arctic waterways would be for international trade. A navigable northern route, for example, would cut the distance between Shanghai and ports in Europe by 2,800 miles compared with the route via the Suez Canal.[217] Fishing rights, too, are at stake. There is also plenty in the way of fossil fuels: a U.S. Geological Survey report suggested the Arctic holds 13 percent of the world's untapped oil reserves and 30 percent of its natural gas.[218]

China's exploits in the Indian Ocean and Polar Silk Road give fair warning that

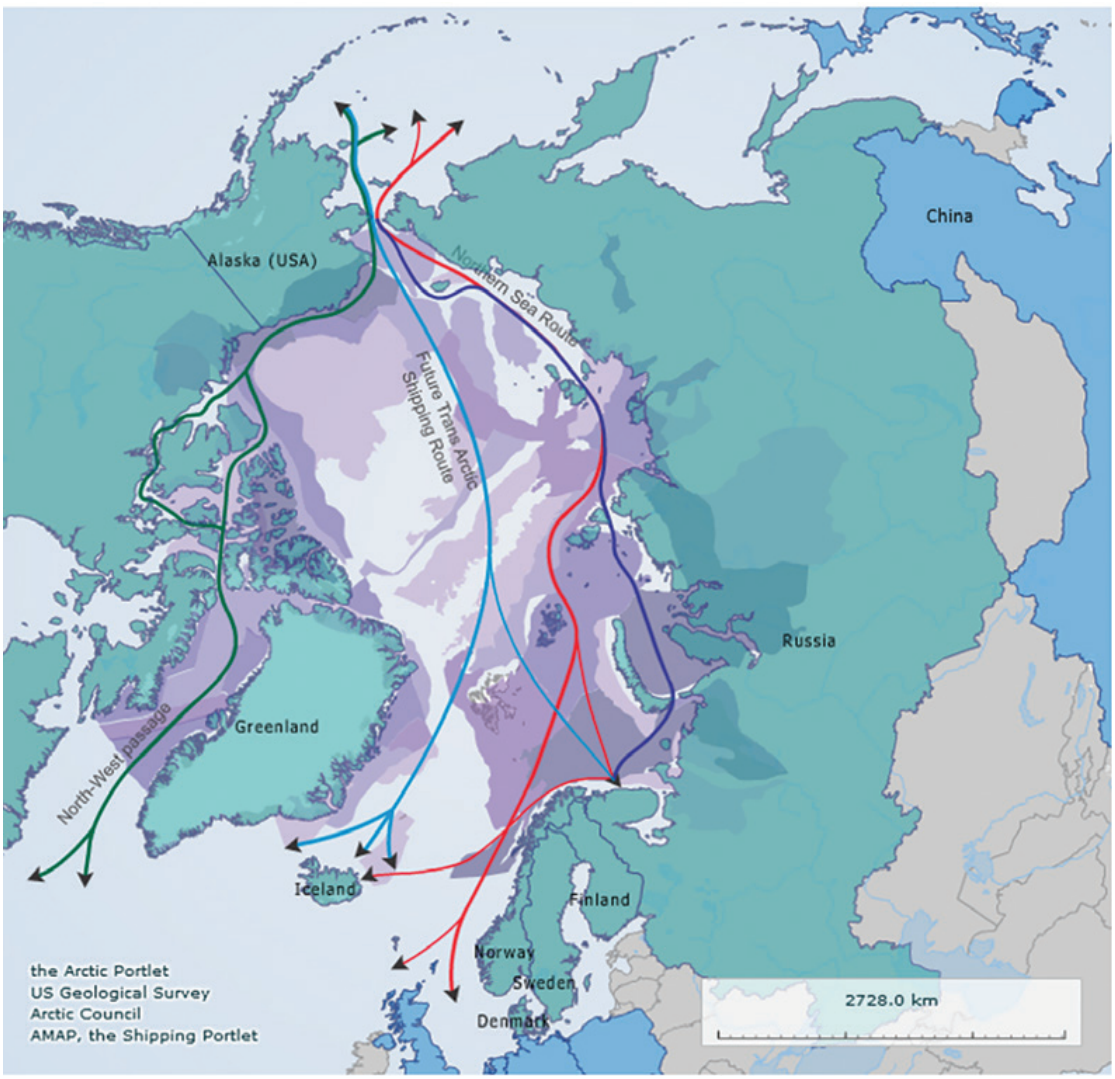


Figure 5.2 *Polar Sea Routes. Source: Jane Nakano, CSIS*

Beijing's aim to displace the U.S. military for preeminence in East Asia, while real, is not the limit of its ambitions, as also seen in Oceana, Africa, and Latin America. This is a global military power in the making, and it has increasing reach.

Deterrence?

How likely is armed conflict between China and the United States? That depends on what one means by armed conflict. One well-known, but heavily critiqued, analysis, *The Thucydides Trap*, suggests that war between a rising power and an established power is more likely than not.[219] Others contend that such a conclusion is too pessimistic.[220] Indeed, among other examples, the last truly significant great-power contest, between the Soviet Union and the United States, did not result in armed conflict, at least not directly.

There are many potential reasons why China and the United States may not go to war. The CCP is not yet confident China can win such a war, though they believe they are much closer today than in the past. That is a sobering conclusion buttressed by the 2020 Pentagon report on China's military power, which noted that the People's Liberation Army (PLA) not only had achieved parity with U.S. forces in certain crucial areas, but had arguably surpassed American capabilities in naval shipbuilding, ballistic missiles, and integrated air defenses.[221] The world saw just how much China's military capabilities had developed in a massive parade marking the seventieth anniversary of the founding of the PRC. Xi Jinping himself presided over a huge display of ballistic and hypersonic missiles, armed drones, stealth fighters, and the like, snaking for miles through the streets of Beijing.[222]

Even so, America's existing military power remains an obstacle to Beijing's dreams of uncontested supremacy in Asia, and around the world.

One of the most obvious issues, of course, is nuclear deterrence. Even if U.S. warheads outnumber Chinese warheads by more than ten to one, the conditions do appear to have been met for a stable, if uneasy, equilibrium—for now.[223] The aforementioned Pentagon report concluded that by 2025 the PLA rocket force would reach 200 nuclear warheads on intercontinental ballistic missiles capable of threatening the United States, indicating Beijing's determination to continue developing a modern nuclear force.

While war could be devastating enough without the use of nuclear weapons, the almost unimaginable destruction from a nuclear exchange has long created disincentives to conflict that are seemingly overwhelming. In addition to outright destruction and loss of life, the unprecedented interconnectivity of the global economy means that a putative nuclear war, even a "limited" one, would wreak havoc with each of the protagonists' wealth and prosperity, not to mention the lives of the leaders and their families.[224]

China watchers are always wary of looking at the challenge Beijing poses through the lens of the twentieth-century Cold War. But while the Soviet challenge and the China challenge are indeed very different, such variance does not mean lessons cannot be learned from that era. Chief among them is what can be learned from the world's first standoff between nuclear-armed great powers. The four-decades-long nuclear standoff between the Soviet Union and the U.S.-led West, including the 1962 Cuban Missile Crisis, offer a reminder that direct confrontation can be deescalated.[225]

Hot war

That said, it would be foolish in the extreme to take anything for granted. The risks are still there. Even if the chances of a calculated nuclear war are remote, what about the prospect of some relatively minor skirmish—for example, a Taiwanese fighter jet shooting down a Chinese J-20 encroaching on Taiwan's airspace—escalating out of control? Fatal accidents have already happened, such as the April 2001 collision between a PLA Air Force fighter jet and a U.S. Navy surveillance plane over the South China Sea, due to the reckless flying of the Chinese pilot, who died in the accident.

According to the Pentagon, the PLA continues to plan actively for military contingencies in the Taiwan Strait. The PLA's growing capabilities across all military domains give it various options to deter a move by Taiwan to assert independence, or to force reunification. There are a lot of military assets in that part of the world, and, as they expand, the possibilities for mishaps in such a crowded space will grow.[226]

Looking at two possible scenarios for military confrontation between the United States and China in Asia—a conflict over Taiwan, and a conflict further from the Chinese mainland—the RAND Corporation analyzed the shifting balance of military power between 1996 and 2017 (see Figure 5.3).[227] On the nuclear option, RAND assessed both sides' ability to deter the other in terms of one, key metric: "When both sides maintain a survivable second-strike capability, the incentives for both the stronger and weaker parties to strike first diminish and stability is, in that sense, enhanced."[228] As RAND amply demonstrates, in other areas too, China has been steadily reducing the power gap with the United States.

Generally, the Chinese military is in a sustained and well-planned process of modernization. It appears intent on developing what is known as A2/AD, or anti-access and area-denial, capabilities that would allow it to try to keep adversary forces from entering certain theaters, or operating freely when already inside areas deemed vital to Chinese security. Presently, according to the Pentagon, the Chinese military's A2/AD capabilities are most robust in the first island chain off China's coast, which includes Taiwan and the East and South China Seas.[229] Beijing is investing heavily in pushing that perimeter eastward and south.

As these new capabilities develop, it is once again important to remember that miscalculations and mistakes do happen, a point that cannot be repeated too often. From the Cold War era, perhaps the most disturbing reminder was the scare over NATO's Able Archer simulation in 1983, which included a simulated U.S. nuclear launch so realistic that it almost triggered a real Warsaw Pact response.[230] The misbegotten simulation provided a cautionary tale: misunderstanding the nature of the challenge from a rival can bring powers much closer to confrontation than their leaders realize.

"Xi Jinping himself presided over a huge display of ballistic and hypersonic missiles, armed drones, stealth fighters, and the like, snaking for miles through the streets of Beijing."

An alliance of non-democracies?

While China is increasing its military power, and while it is true that one of its key vulnerabilities is its lack of the kind

FIGURE 5.3

OPERATIONAL AREAS	CLOSER TO MAINLAND CHINA: TAIWAN SCENARIO				FARTHER FROM MAINLAND CHINA: SPRATLY ISLANDS SCENARIO			
	1996	2003	2010	2017	1996	2003	2010	2017
1. Chinese air base attack	Major U.S. Advantage	Major U.S. Advantage	Approximate Parity	Chinese Advantage	Major U.S. Advantage	Major U.S. Advantage	Major U.S. Advantage	Approximate Parity
2. U.S. vs. Chinese air superiority	Major U.S. Advantage	U.S. Advantage	U.S. Advantage	Approximate Parity	Major U.S. Advantage	Major U.S. Advantage	U.S. Advantage	U.S. Advantage
3. U.S. airspace penetration	U.S. Advantage	Approximate Parity	Approximate Parity	Approximate Parity	Major U.S. Advantage	Major U.S. Advantage	Major U.S. Advantage	U.S. Advantage
4. U.S. air base attack	Approximate Parity	Major U.S. Advantage	U.S. Advantage	U.S. Advantage	Major U.S. Advantage	Major U.S. Advantage	Major U.S. Advantage	Major U.S. Advantage
5. Chinese anti-surface warfare	Major U.S. Advantage	U.S. Advantage	Approximate Parity	Chinese Advantage	Major U.S. Advantage	Major U.S. Advantage	U.S. Advantage	Approximate Parity
6. U.S. anti-surface warfare	Major U.S. Advantage	Major U.S. Advantage	U.S. Advantage	U.S. Advantage	Major U.S. Advantage	Major U.S. Advantage	Major U.S. Advantage	Major U.S. Advantage
7. U.S. counterspace	Chinese Advantage	Chinese Advantage	Approximate Parity	Approximate Parity	Chinese Advantage	Chinese Advantage	Approximate Parity	Approximate Parity
8. Chinese counterspace	Major U.S. Advantage	U.S. Advantage	Approximate Parity	Approximate Parity	Major U.S. Advantage	U.S. Advantage	Approximate Parity	Approximate Parity
9. U.S. vs. China cyberwar	Major U.S. Advantage	Major U.S. Advantage	U.S. Advantage	U.S. Advantage	Major U.S. Advantage	Major U.S. Advantage	U.S. Advantage	U.S. Advantage

10. Nuclear stability (confidence in secure second-strike capability)

	1996, 2003, and 2010	2017
China	Low confidence	Medium confidence
U.S.	High confidence	

Source: RAND Corporation

of global network of allies and partners that the United States has nurtured over decades, Beijing does work with other powers when it sees an advantage. The Arctic is just one area in which China and Russia, for example, have been developing a potentially formidable, if unsteady, strategic relationship.

The two countries have cooperated in other areas in recent years as well, not least Russia's Vostok war game in 2018. It included more than 300,000 troops, 3,500 of whom were from China's PLA.[231] Vostok raised concerns not only about the strategic partnership between Russia and China, but also about the wider issue of whether Beijing could or would seek to create a kind of alliance of non-democracies to counter the United States and its democratic allies and partners around the world. Since Vostok, China-Russia joint exercises and trainings have accelerated.[232]

China and Russia have also been partners in the arms trade since the early 1990s. While China's purchases of Russian arms have fluctuated over the years, joint exercises and training are increasingly deepening their military "entente." In 2016, the two countries executed contracts in military-technical cooperation worth $3 billion.[233]

Expeditionary power

With China's growing wealth, it is hardly surprising that it is investing more in defense. But how much is it spending, and what is its status as a military power today?

Although a precise understanding of Chinese military spending is impossible to decipher from open sources, evidence suggests the nation is putting its money where its ambitions are. In 2019, China announced a defense budget of $174 billion, around 1.3 percent of GDP.[234] But that does not include several categories of spending and needs to be adjusted to take account of purchasing-power realities that differ from crude conversions into U.S. dollars. Though estimates vary, most, including the U.S. Defense Department, believe China's true military spending is above $200 billion per year—almost a seven-fold increase since 2000 (see Figure 5.4).[235]

In addition to budget figures, the International Institute for Strategic Studies (IISS) looked at the potential to conduct operations across the spectrum of war and determined that China is an "expeditionary power," akin to France, the United Kingdom, and Russia in days past. China has a "proven ability to deploy limited capabilities at strategic range."[236] Although it cannot currently project large-scale conventional forces at a "continental range for a sustained period," China's nuclear forces and the size of its conventional forces serve as a boost.[237]

"With China's growing wealth, it is hardly surprising that it is investing more in defense."

Without global force projection to rival the United States, China has relied on an offensive cyber war against democracies that is indeed global in range and scope. China leverages cyber tools for economic, political, and strategic gain. According to a 2019 report by the IISS, the Ministry of State Security, the PLA, and their affiliated hackers are continually engaged in the "accumulation of data that may have relevance for Chinese intelligence, counter-intelligence and information manipulation."[238] This data,

combined with China's advances in AI and other technologies could prove especially important in the years ahead. Among other entities, the party-state has targeted Eastern European financial organizations (August 2020), Taiwanese government agencies (August 2020), the Vatican (July 2020), the U.K. airline EasyJet (May 2020), and the U.S. government, including the Department of Health and Human Services during the COVID-19 pandemic (April 2020).[239]

This all said, the U.S. military remains superior. With a defense budget of over $700 billion, hard-earned military experience in recent decades, and capital and knowledge stocks, it is no surprise that the IISS considers the United States still to be the only truly global military power.[240] That power is magnified many times when combined with America's allies.

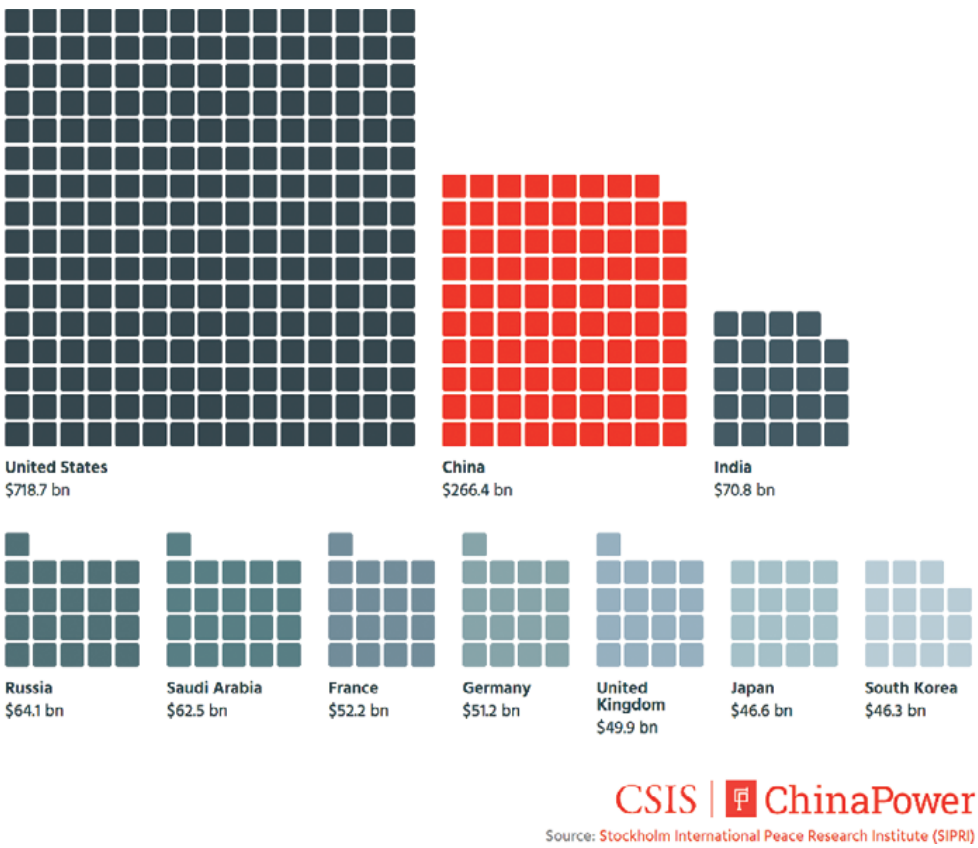


Figure 5.4 Top Ten Military Expenditures by Country in 2019 (2018 Nominal Dollars).
Source: Center for Strategic and International Studies China Power Project

CHAPTER 6
STRONGER TOGETHER

The China challenge to the world's democracies has many dimensions. And there is not a single one of the threat factors described in the five chapters above that can be successfully met by the United States on its own, at least not without incurring costs that the U.S. government and American public would likely be unwilling to pay. Perhaps, some might argue, the military challenge is the exception. But, as demonstrated in Chapter 5, China's military power is rising faster than is often assumed, especially closer to home. The United States improves, and often drastically improves, its chances of keeping China at bay when it brings its allies into the game. This is as true in the military sphere as it is in economics, technology, and diplomacy.

This then raises a fundamentally important question: what do alliances between democracies look like in the twenty-first century? It has become fashionable in many quarters to total up the GDP and the military hardware of the world's democracies, juxtapose that with what China can deploy on its own, and, with a drum roll, announce that the Holy Grail has been found. Raw, aggregate power matters. But that does not equal declaring victory with a rhetorical flourish. Beijing knows full well that its key vulnerability is its lack of allies, and that America's greatest strength is that it has lots of them. This is why it goes to such great lengths to sow division—to create the prospect of alternative allegiances for nations that, in some cases, have been part of the Pax Americana for decades or that, in others, have not yet made up their minds about which camp, if any, they want to belong to.

While this is the beginning and not the end of the discussion, the HFX interviews suggest that it would be prudent to begin thinking along the following lines:

Global NATO no more

Democracies need to make a conceptual and, indeed, cultural shift in their attitudes to alliances in the twenty-first century. Talk about a Global NATO as one possible response to China is a good illustration of a well-meaning idea that is mired in a twentieth-century view of the world. Most of the countries in Asia, let alone Africa, for example, that would putatively be part of such a Global NATO have only been independent from colonial powers (which are in NATO) since the middle of the twentieth century. In floating this idea to Asian participants, all HFX encountered was bemusement. There is no appetite for a return to the days in which Asian countries place themselves under Western power structures, even if today they are under new management.

NATO itself should stay right where it is, continuing to focus on its impressive, historically successful core role of ensuring peace, stability, and freedom in Europe and the North Atlantic, while upgrading its capabilities to meet evolving threats in the cyber domain. What will work in Asia will be flexible alliances and partnerships between

the United States and individual Asian nations, sometimes in combination with other Asian nations, and sometimes with the added participation of other allies from outside Asia.

It is worth noting in relation to NATO that the China challenge has in important respects given it a new lease on life. Close observers, as well as insiders, say that there has been a remarkable convergence of views on China among member states in the last couple of years, and that putting China at the heart of its agenda has forged a renewed respect and appreciation in Washington of NATO's benefits to burden-sharing to meet America's most pressing, global challenge.

The Quad squad

A more interesting approach than Global NATO is the Quad, more formally known as the Quadrilateral Security Dialogue. Formed in 2007 by the United States, India, Japan, and Australia, it had all but fallen apart a year later in the wake of loud protests about its very existence from Beijing, which issued diplomatic demarches to all four participant nations.[241] The Quad reemerged in 2017 as a combination with formidable potential.[242] It met most recently in October 2020, in Tokyo.

In the first place, the Quad provides an excellent illustration that if at first one doesn't succeed, try again. The fact that there are going to be challenges in building new alliances and partnerships in the twenty-first century needs to be written into expectations at the outset, lest nations run for the hills at the first sign of trouble.

The Quad was formed in an organic way following the 2004 tsunami, with navies from the four countries engaging in coordinated humanitarian assistance.[243] Its beginnings were, therefore, more of a partnership than an alliance per se. At around the same time another combination was being formed—the so called Trilateral between the United States, Japan, and Australia—concerns about China encouraged the formation of the Quad in its first incarnation. While it is easy to blame one or other of the participating nations for its early collapse, that collapse took place at the height of a much more broadly based uncertainty, denial even, about the challenge that China poses. It has taken time for the

United States and its allies in Europe to get up to speed about the China challenge. That should give everyone pause before criticizing countries such as Australia, India, and Japan, who were no more laggardly in gaining clarity on this issue than the rest of the world. Indeed, the Quad's rebirth can be seen as one of the first concrete steps on the road to clarity about Beijing's intentions and the need to check them.

The Quad has met twice a year consistently since 2017. It has expanded in various ways, not just survived. It now encompasses maritime security, cyber issues, and regional connectivity.[244] There are also spin-offs, including meetings of Quad ambassadors in South East Asia to chat informally. It is a highly flexible arrangement: it does not just exist as a Quad. There are variable trilateral relations with nations such as Indonesia or the Philippines. It served as a kind of base during the coronavirus crisis, bringing in Association of Southeast Asian Nations countries that China has claimed are being deliberately excluded by Quad members.[245]

The Quad also illustrates a workable combination in which everybody's contribution can be different without causing rancor. Japan, for example, may not bring as much in terms of military heft as India or the United States, but it may take a larger role in funding and investment. Australia may be the smallest economy, but it is the lynchpin resident member in the Asia-Pacific of the Five Eyes—the United States, the United Kingdom, Canada, Australia, and New Zealand—which is itself a useful model of an effective cooperative relationship among democracies in the twenty-first century.

As one well-informed interviewee in the HFX research put it: "The Quad is a coalition of the willing. Perhaps in miniature, it shows what the world's democracies can do on a wider canvas. It is a model of networks of partnerships. You won't see Asia go from hub and spoke to a NATO."

There may well be aspects of the four-nation combination that can be replicated elsewhere, but it is its flexibility and low-key approach to public relations that comprise its most applicable characteristic. There are few bells and whistles, and there don't need to be to make a useful partnership work. Approaches like this could herald a golden age for diplomacy as nations put these new-style partnerships together.

America first, but not alone

As importantly as anything, democracies need to reimagine a democratic alliance and partnership system that works for its natural leader, which will remain the United States.

Across the political spectrum, and among the American public, there is a widespread feeling that the United States has been getting a raw deal from its allies. And, allies who have indeed been giving the United States a raw deal need to put matters right. For their part, America's allies have, in recent years, felt a similar discomfort, sharing a distinct sense that they are neither sufficiently valued nor respected in Washington.

Now is the perfect time for democracies to come together and forge a new deal with the United States. Again, this does not have to be done with bells and whistles. Nor does it have to be especially dramatic. But for the purposes of rebooting the relationship with Washington, allies should begin thinking along the following lines as part of a constructive reappraisal of where they

stand and how they can bring more value to the alliances and partnerships they still want the United States to lead.

In Europe, Brexit poses a challenge to a European Union that has long faltered in the foreign policy sphere. Turning adversity into opportunity, Brexit should be seized as a breakpoint, offering the prospect for a new deal on the basis of more realistic foundations for foreign and security policy in Europe. Many people interviewed in the HFX research, particularly those in Asia, observed that Europe was not only geostrategically irrelevant these days but, worse, risked becoming a geostrategic contested space. That cannot be allowed to happen, and in so far as it is happening, it needs to be reversed. Europe is the largest hub of democracies in the world; it is also home to some of its richest and most militarily and diplomatically significant nations.

Apart from obvious changes to the way some European nations have become overly dependent on Chinese investment and markets, the most significant change needs to be at the top. With this in mind, Britain, France, and Germany might come together as a Group of Three to do the heavy lifting. Amid the lingering, poisonous mists of the Brexit negotiations, such a proposition may seem fanciful. But these mists will dissipate, and all sides should do everything in their power to ensure that happens as swiftly as possible. The United Kingdom is Europe's most formidable military and diplomatic power. It brings the Five Eyes to the table, among many other assets. A U.K.-France-Germany troika should offer to take the lead, or at least an enhanced role alongside the United States, in dealing with Russia, the Middle East, and North Africa. This kind of burden-sharing is exactly the way to rebuild U.S. confidence in its allies. Surprisingly, we encountered significant support for this idea, especially in Germany. Just like the Quad when it started out, it would not be an easy combination to make work. But, despite the best of intentions in Brussels, it is more grounded in the real world than expectations for the kind of coherence in foreign and security policy that has hitherto never really been forthcoming from the EU-27 as a whole. Which is not to say that the European Union does not have a strategic role to play, especially when it can gather the necessary consensus to wield the formidable leverage provided by its enormous single market. But a U.K.-France-Germany troika stands a better chance of becoming a consistently deployable power bloc in the European theater. There is an idea to work with here. It should be explored.

"As importantly as anything, democracies need to reimagine a democratic alliance and partnership system that works for its natural leader, which will remain the United States."

Playing with it just a little further, consider the Pentagon's most recent report on China's military. It noted that the Chinese Navy is now the largest in the world with 350 ships. The United States has 293. Understandably, this caused a certain consternation, especially set against criticism in some quarters that the United States is having trouble meeting its own 350 ship target.[246] But consider what the above-mentioned Group of Three would do to those calculations. The British Royal Navy as of August 2020 had seventy-seven commissioned ships.[247] The French Navy

had ninety-six, and the German Navy had sixty-five ships.[248,249]

That is 238 ships in all. Some of these, certainly, could be present in Asia, as the French already are, adding materially to the capabilities of the United States, Japan, Australia, and India. Of course, this is back-of-the-envelope thinking, and it is designed to illustrate a point rather than make precise strategic comparisons. But, with that caveat firmly posted, U.S. Naval forces and just three allies in Europe can put together 531 ships, compared with the at-first-sight intimidating 350 from China. The United States has allies that *can* shoulder burdens, *if they pull together with renewed purpose to do so*. It has been a long time since anyone seriously looked again at ideas like a European Group of Three. This is as good a time as any to do exactly that.

India is a vital player that is destined to play a crucial role in global affairs as the twenty-first century proceeds. It has the world's third-largest defense budget, its second-biggest population, and the fifth-biggest economy.[250] In each of those categories, it is on the rise. From discussion with the HFX research pool in Asia, and beyond, one thing became clear above all else: India does not have the slightest interest in being a "balancing power" for anybody apart from India. It may well be emerging as a crucial balancer against Chinese power, and this would be in the interests of the entire democratic world. But it is not minded to do so to bring joy to the hearts of the Washington foreign policy community. India is looking after its own interests, as well it should. Fortunately, India's interests and the rest of the democratic world's converge in many areas. In contrast with the central thesis of *The Thucydides Trap*, a rising India would be very much in U.S. interests, and serious attention to helping India develop should be a top priority for Washington and its allies everywhere.

As part of this, the world's democracies should push for India to become the sixth permanent member of the United Nations Security Council. Should China and Russia resist such a move, it would serve to underline to New Delhi who are its friends and who are not.

In Asia and in the Asia Pacific, Japan may offer to upgrade its capacity across the board, from ballistic-missile assets to submarine capacity and even into space.[251] Taiwan should be brought into U.S. Indo-Pacific Command's military exercises, perhaps only in terms of medical personnel at first, but at least it would be something. South Korea could be encouraged to warm relations with Japan and get talking with a view toward a long-term process of rapprochement. Australia could help in firming up Quad-Plus outreach to fellow Five Eyes partner New Zealand, which joined Quad multilaterals in the wake of the coronavirus in 2020. As suggested above, the Quad itself is one of the most interesting aspects of the global security architecture. It should be encouraged to continue on its current trajectory.

African allies, like their European counterparts, have a job to do in dislodging China as an increasingly troublesome investor, especially in sensitive sectors such as telecoms and digital technology. China is, of course, also heavily involved in the purchase of raw materials, such as copper, zinc, nickel, and others. The establishment of China's first overseas military base in Djibouti in 2017 illustrates Beijing's strategic ambitions on the African continent. That is not all. China has built or funded dozens of ports on Africa's coasts that are now visited by Chinese naval ships on a regular basis.

For the same reasons that a Global NATO is a nonstarter in Asia, the United States and European nations need to be mindful of the colonial past in their dealings with African nations. While it is European nations that are the former colonial powers, the United States has its own troubling history with Africa and is in important respects seen as the successor in the global north to those old colonial powers. Rethinking strategies for releasing African nations from debt and thinking harder about how they might be given more equitable status in immigration policy is a better basis for good and respectful relations than simply admonishing them for joining the One Belt One Road Initiative. Union leaders in the United States also told HFX that U.S. soft power in Africa could be significantly enhanced if U.S. companies operating on the continent offered a better deal to local workers and the communities in which they live. U.S. companies are not often enough seen as better employers than their Chinese counterparts. This needs to change if the United States is to win the battle for hearts and minds. It is a good illustration of how twenty-first-century alliance building needs to take a much more all-of-society approach than nations were used to in the twentieth century. Resetting the relationships in Africa along such lines will provide a helpful basis for mutual trust and respect, and for African nations to bring their own assets to the table in regard to the all-of-world challenge that China poses.

In Latin America, the United States also needs to be mindful of past injustices, while Latin American nations need to show understanding that significant sections of the American public are deeply concerned about illegal migration across their southern border. In important respects, that is already the case. But it is easy to miss the forest for the trees. These matters set the mood music against which the geostrategic discussion in the Americas takes place. In fact, many South American nations depend economically on China but fear its geopolitical ambitions. The United States has, hitherto, largely squandered the obvious opportunity implicit in this. China knows that and is ever ready to play divide and rule where it can.

Washington and the capitals of Latin American democracies need a noble cause around which to unite—a success that can reenergize relations. They should come together with renewed purpose to pressure the Maduro regime in Venezuela. But, in a partnership fit for the twenty-first century, it should not stop at seeing Juan Guaido assume his rightful place as Venezuela's president. A new social contract for the people of Venezuela, backed by U.S. and regional investment to rival the Marshall Plan, could be a major confidence-building measure for Latin American peoples long made cynical by empty rhetoric and debt-driven development strategies. It could also serve as a meaningful retort to Beijing's claim that it offers the twenty-first century's best model of development.

In North America itself, Canada is already America's closest ally, especially when one considers the unique mix of geographical proximity, history, trade agreements, common membership in alliances such as NATO, and directly experienced strategic challenges such as the future of the Arctic. The United States already benefits from exceptionally close cooperation with Canada's military, whose formidable capabilities would still benefit from increased expenditure, especially to meet the 2 percent of GDP threshold set out as a guideline by NATO. Most NATO countries fall short of that target, but if Canada were to meet it, this would have strong symbolic value, going far beyond U.S.-Canada relations in reassuring the American public that its allies are pulling their weight. Canada, as host nation to the annual Halifax International Security Forum, has also demonstrated by that very fact that it has a natural place as a convener of international strategic dialogue between the United States and its democratic allies around the world. In addition to Canada's impressive hard-power capabilities, this is a soft-power asset that could be extended across many fronts and in many domains. Canada is better placed than any other democracy in the world to fulfill that role.

Mexico is also unique as a U.S. ally. It overlaps as both a North American and a Latin American partner at the same time. Both the United States and Mexico need to reduce tensions surrounding their border; doing so would have the added merit of opening up the space in the public domain for a better appreciation of the value that Mexico already provides to U.S. national security. If there would be a public-relations premium attached to greater defense spending by America's northern neighbor, enhanced efforts in the security sphere by Mexico might be especially reassuring to the American public. Mexico's defense architecture is currently limited by a defense budget that is a mere 0.5 percent of GDP.[252] A mix of support to develop state capacity and a staged plan to raise defense expenditure, particularly in terms of the capacity to fight drug- and human-trafficking syndicates, would be good in itself and would demonstrate goodwill to the American people.

Famously good allies

Generally speaking, all democracies can come together with America either individually or in combination with others (not necessarily *all* others) on technology sharing, and preferential trading relationships. As its very first policy recommendation, the United States House of Representatives Armed Services Future of Defense Task Force Report 2020 urged the United States, and Congress and the Pentagon in particular, to "undertake and win" the race for artificial intelligence (AI) including specific steps such as requiring "every

Major Defense Acquisition Program to evaluate at least one AI or autonomous alternative prior to funding," and requiring all such Programs "to be AI ready and nest with existing and planned joint all-domain command and control networks."[253]

HFX endorses that recommendation, but further suggests that *all* departments of defense across the democratic world not only do likewise but work with the Pentagon to pool resources and find synergies where possible and also, more generally, to share knowledge and innovative ideas in AI and all other tech-related areas. As a complement to this, HFX both endorses and urges all other democracies to emulate a related Task Force recommendation for the United States to commit to spending at least one percent of gross domestic product on government-supported research and development.

Space is a similarly tech-dominated area where democracies could do a better job of pooling resources and increasing investment in a coordinated way. It is an increasingly contested domain and China is making significant progress in related research and development as well as launching satellites.

In order to preserve the benefits of international trade while reducing consumer and corporate supply chain dependence on China, the world's democracies, under U.S. leadership, should make it a long-term ambition to a establish a global free-trade zone for democracies. The United States-Mexico-Canada Agreement and the European Union's single market are natural building blocks for the eventual creation of such a global, democratic free-trade club. This should be extended to include the United Kingdom, India, Japan, South Korea, Australia and all other Indo-Pacific democracies, as well as democracies in Africa and Central and South America.

From such a position of strength, democracies should then coordinate policy and investment decisions related to consumer and supply chain dependence. This is an ambition fraught with obstacles from domestic interest groups. However, the great visionary leaders of the twentieth century were able to overcome such obstacles to meet the challenges of their time. The leaders of the twenty-first century must rise to the challenges of today showing similar courage and conviction.

"In order to preserve the benefits of international trade while reducing consumer and corporate supply chain dependence on China, the world's democracies, under U.S. leadership, should make it a long term ambition to establish a global free-trade zone for democracies."

Building greater flexibility, as well as depth, into the culture of alliance and partnership formation in the twenty-first century naturally means not asking countries to make black and white choices, for example between Beijing and Washington on trade, especially in today's absence of the kind of global free trade area just referred to.

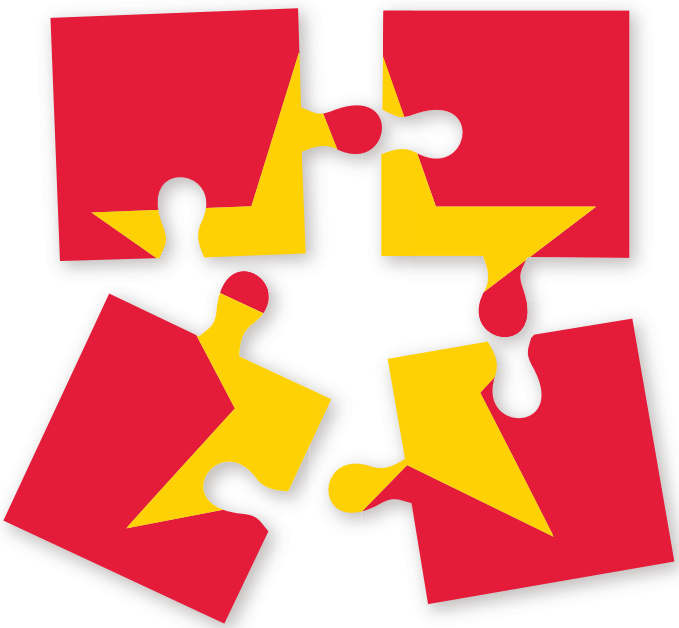
While there are certain, obvious areas of cooperation that democracies should be devoting much time to developing, there are also pitfalls that need to be avoided. Seductive as it sounds, for example, democracies should be wary of emulating China's One Belt One Road Initiative by throwing good money

after bad on infrastructure projects that often have uncertain economic value, and risk perpetuating corruption. If infrastructure projects in poorer countries are economically viable, each should be financed by commercial loans, including those offered at subsidized interest rates by global financial institutions. In conditions of extreme poverty or reconstruction after natural disaster or war, financing for infrastructure projects should be offered free of charge under foreign aid programs, the necessary due diligence regarding corruption, respect for workers' rights, and environmental and other standards being a non-negotiable prerequisite. In other cases, neither American nor other democracies' taxpayers should be asked to fund a race to the bottom with Beijing on behalf of countries that are ready to sell off their allegiance and sovereignty to the highest bidder.

While the China challenge is indeed an all-of-government and all-of-society challenge, it is nonetheless a strategic challenge first and foremost. There is an immediate need for significantly enhanced coordination between departments of defense across the democratic world in all areas related to the challenge posed by China. While the creation of a new supranational organization would be time consuming and bureaucratic, HFX has more than a decade of experience in its unique mission to strengthen strategic cooperation among the world's democracies. In line with suggestions put to HFX in the course of research for this handbook, defense departments should formalize their relationship with HFX as a ready-made hub for the sharing of best practices and innovative ideas in a race to the top to meet the challenge from China.

The key point to grasp from all that has been laid out in this handbook is that democracies need, above all else, to be absolutely clear about the nature and reality of the challenge that Xi's China poses to the free world today. The policy mistakes of the past came about precisely because collective thinking was constructed on the sandy beaches of wishful thinking, and flawed analysis. On the firmer foundations of a realistic appraisal of what democracies are up against, good policy and reinvigorated alliances amongst democracies will suggest themselves naturally. That does not mean that careful, considered policy formulation is easy. But it does mean that the democratic community of nations maximizes its chances of getting there when the nature of what it is dealing with has first been laid out for all to see.

Beijing pushed the world's democracies to the brink of a confrontation that the world's democracies and their peoples did not want. If the Chinese leadership is prepared to soberly reassess its objectives, and reconfigure the ambitions of the CCP, confrontation can still be avoided. If China chooses not to reassess and not to reconfigure, then calmly, yet decisively, democracies can and will come together to meet the challenge of this century's Greatest Game.



HFX
CHINA PRINCIPLES

The democratic world pledges to defend itself from the following practices that undermine its values and way of life:

- **IGNORING CHINA'S ATTEMPTS TO INTERFERE IN DEMOCRATIC SOCIETIES;**
- **SUBMITTING TO, COLLABORATING WITH, OR PARTICIPATING IN ANY CENSORSHIP OR SELF-CENSORSHIP OF IDEAS, WRITINGS, ARTISTIC ENDEAVORS, OR STATEMENTS RELATED TO THE PEOPLE'S REPUBLIC OF CHINA;**
- **PARTICIPATING IN ANY BUSINESS OR TECHNOLOGY-RELATED PRACTICES OR EXCHANGES THAT AID AND ABET CHINESE COMMUNIST PARTY OPPRESSION OF ITS OWN PEOPLE;**
- **NEGLECTING TO OPPOSE ATTEMPTS BY THE PEOPLE'S REPUBLIC OF CHINA TO BRING GLOBAL GOVERNANCE OF THE INTERNET AND TECHNOLOGICAL STANDARDS INTO ALIGNMENT WITH ITS OWN AUTHORITARIAN VALUES AND AMBITIONS;**
- **SUPPORTING OR ENGAGING IN ANY KIND OF PUNISHMENT OR SANCTION OF ANYONE FOR ENGAGING IN CRITICISM OF CHINA;**
- **FAILING TO SUPPORT DEMOCRATICALLY-MINDED PEOPLE AND GOVERNMENTS ACROSS THE WORLD WHO FACE PRESSURE OR INTIMIDATION BY THE PEOPLE'S REPUBLIC OF CHINA;**
- **KNOWINGLY BUYING OR TRADING IN CHINESE PRODUCTS OR SERVICES MADE WITH FORCED LABOR, OR THAT ARE THE RESULT OF CRIMINAL ACTIVITIES LIKE COUNTERFEITING OR INTELLECTUAL PROPERTY THEFT.**

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War with China

Thinking Through the Unthinkable

David C. Gompert, Astrid Stuth Cevallos, Cristina L. Garafola

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Preface

War between the United States and China could be so ruinous for both countries, for East Asia, and for the world that it might seem unthinkable. Yet it is not: China and the United States are at loggerheads over several regional disputes that could lead to military confrontation or even violence between them. Both countries have large concentrations of military forces operating in close proximity. If an incident occurred or a crisis overheated, both have an incentive to strike enemy forces before being struck by them. And if hostilities erupted, both have ample forces, technology, industrial might, and personnel to fight across vast expanses of land, sea, air, space, and cyberspace. Thus, Sino-U.S. war, perhaps a large and costly one, is not just thinkable; it needs more thought.

In the United States—as, evidently, in China—systematic analysis of war has been the province of war planners. This is not good enough, for war planners are concerned mainly with how to gain military advantage, not how to avoid economic and political damage. Yet the consequences of war could go far beyond military success and failure: The world economy could be rocked, and international order, such as it is, could be shattered. Because the scope and effects of a Sino-U.S. war could be much wider than the scope of military planning for such a war, it is crucial to think and plan much more expansively than we have in the past.

At the same time, improvements in Chinese military capabilities mean that a war would not necessarily go the way U.S. war planners plan it. Whereas a clear U.S. victory once seemed probable, it is increasingly likely that a conflict could involve inconclusive fighting

with steep losses on both sides. The United States cannot expect to control a conflict it cannot dominate militarily. While planning to win a war with China remains necessary, it is no longer sufficient: The United States must also consider how to limit war and its costs.

This study seeks to begin filling the hole in thinking about Sino-U.S. war by examining alternative paths one might take, effects on both countries of each path, preparations the United States should make, and ways to balance U.S. war aims against costs should war occur. It considers not only military factors but also economic, domestic political, and international ones, across the time frame from 2015 to 2025. Implications for the U.S. Army are highlighted. The authors emphasize that this analysis is indicative, not definitive, and that the findings are preliminary. It is hoped that this study will encourage others, for it is not meant to be the last word.

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Summary

As its military advantage declines, the United States will be less confident that a war with China will conform to its plans. China's improved military capabilities, particularly for anti-access and area denial (A2AD), mean that the United States cannot count on gaining operational control, destroying China's defenses, and achieving decisive victory if a war occurred. With that in mind, this report examines alternative paths that a war between the United States and China might take, losses and other effects on both sides, preparations that the United States should make, and ways to balance U.S. war aims against costs should war occur.

We postulate that a war would be regional and conventional. It would be waged mainly by ships on and beneath the sea, by aircraft and missiles of many sorts, and in space (against satellites) and cyberspace (against computer systems). We assume that fighting would start and remain in East Asia, where potential Sino-U.S. flash points and nearly all Chinese forces are located. Each side's increasingly far-flung disposition of forces and growing ability to track and attack opposing forces could turn much of the Western Pacific into a "war zone," with grave economic consequences. It is unlikely that nuclear weapons would be used: Even in an intensely violent conventional conflict, neither side would regard its losses as so serious, its prospects so dire, or the stakes so vital that it would run the risk of devastating nuclear retaliation by using nuclear weapons first. We also assume that China would not attack the U.S. homeland, except via cyberspace, given its minimal capability to do so with conventional weapons. In contrast,

U.S. nonnuclear attacks against military targets in China could be extensive. The time frame studied is 2015 to 2025.

The need to think through war with China is made all the more important by developments in military capabilities. Sensors, weapon guidance, digital networking, and other information technologies used to target opposing forces have advanced to the point where *both* U.S. and Chinese military forces seriously threaten *each other*. This creates the means as well as the incentive to strike enemy forces before they strike one's own. In turn, this creates a bias toward sharp, reciprocal strikes from the outset of a war, yet with neither side able to gain control and both having ample capacity to keep fighting, even as military losses and economic costs mount.

A Sino-U.S. conflict is unlikely to involve large land combat. Moreover, the unprecedented ability of U.S. and Chinese forces to target and destroy each other—*conventional counterforce*—could greatly deplete military capabilities in a matter of months. After that, the sides could replenish and improve their forces in an industrial-technological-demographic mobilization contest, the outcome of which depends on too many factors to speculate, except to say that costs would continue to climb.

While the primary audience for this study is the U.S. policy community, we hope that Chinese policymakers will also think through possible courses and consequences of war with the United States, including potential damage to China's economic development and threats to China's equilibrium and cohesion. We find little in the public domain to indicate that the Chinese political leadership has given this matter the attention it deserves.

Four Analytic Cases

The path of war might be defined mainly by two variables: intensity (from mild to severe) and duration (from a few days to a year or more). Thus, we analyze four cases: brief and severe, long and severe, brief and mild, and long and mild. The main determinant of intensity is whether, at the outset, U.S. and Chinese political leaders grant or deny

their respective militaries permission to execute their plans to attack opposing forces unhesitatingly. The main determinant of duration, given that both powers have the material wherewithal to fight a long war, is whether and when at least one side loses the will to fight or calculates that continuing to do so would be counterproductive.

We categorize the effects of each case as military, economic, domestic political, and international. Military losses include aircraft, surface ships, submarines, missile launchers and inventories, and C4ISR (command, control, communications, computing, intelligence, surveillance, and reconnaissance) systems, which are increasingly vulnerable to cyber and anti-satellite (ASAT) warfare. Economic costs include the contraction of trade, consumption, and revenue from investments abroad. (The disruption of energy supplies is captured in the effects of trade contraction.) Should cyberwarfare escalate from military to civilian domains and infect critical information infrastructure, economic activity could be further disrupted. Domestic political effects could range from impeding war policy to endangering internal stability. International responses could be supportive, opposed, or destabilizing.

The current rate of advances in military technology, especially in Chinese A2AD and in cyberwar and ASAT capabilities of both sides, implies a potential for major change in the decade to come, which dictates examining 2025 cases distinct from 2015 cases. Economic conditions will also change between now and 2025—with the Chinese economy potentially overtaking the U.S. economy, Chinese investments abroad growing, and both economies relying more than ever on computer networking—though not enough to alter qualitatively the economic impact of a war. Attempting to specify domestic political and international effects of war a decade from now would be even more speculative. Thus, 2025 is analyzed distinctly from 2015 only in the military dimension.

The four cases and indicative findings about losses, costs, and other effects are as follows:

- *Brief, severe:* If either U.S. or Chinese political leaders authorize their military commanders to carry out plans for sharp strikes on

enemy forces, a severely violent war would erupt. As of 2015, U.S. losses of surface naval and air forces, including disabled aircraft carriers and regional air bases, could be significant, but Chinese losses, including to homeland-based A2AD systems, would be much greater. Within days, it would be apparent to both sides that the early gap in losses favoring the United States would widen if fighting continued. By 2025, though, U.S. losses would increase because of enhanced Chinese A2AD. This, in turn, could limit Chinese losses, though these would still be greater than U.S. ones. It could be unclear then whether continued fighting would result in victory for either side. Economically, even a brief, severe war would produce a shock to Chinese global trade, most of which would have to transit the Western Pacific war zone, whereas U.S. economic damage would largely be confined to bilateral trade with China. International and domestic political responses would have little impact.

- *Long, severe:* As of 2015, the longer a severe war dragged on, the worse the results and prospects would be for China. By 2025, however, inconclusive results in early fighting could motivate both sides to fight on despite heavy losses incurred and still expected. Although prospects for U.S. military victory then would be worse than they are today, this would not necessarily imply Chinese victory. As the fighting persisted, much of the Western Pacific, from the Yellow Sea to the South China Sea, could become hazardous for commercial sea and air transport. Sharply reduced trade, including energy supplies, could harm China's economy disproportionately and badly. The longer and harsher a conflict, the greater would be the likelihood of involving other states, especially U.S. allies in the region—most importantly, Japan.
- *Brief, mild:* Given the uncertain prospects of swift military victory, the risks of losing control, and the specter of major economic damage, both Chinese and U.S. leaders—for it would take *both*—might decline to authorize all-out strikes on the other side's forces. What could follow is tightly restricted, low-

grade, sporadic, inconclusive fighting, with minimal military losses. Assuming that leaders of both states were inclined and had enough political latitude to compromise, such a conflict could be ended before it produced major economic damage or domestic and international political tremors.

- *Long, mild:* With fighting contained and losses tolerable, the sides could try to escape the political costs of compromise by continuing a low-grade conflict. Because neither would gain the upper hand militarily, this could go on for some time. In the meantime, even with fighting limited, economic losses would grow, especially for China. With the passage of time, domestic and international political reactions would intensify, though less consequentially than in the long, severe case.

These cases indicate that the advanced conventional counterforce capabilities of both the United States and China could produce major military losses from the outset and throughout unrestrained (though nonnuclear) hostilities. Once *either* military is authorized to commence strikes, the ability of *both* to control the conflict would be greatly compromised. Each side could regard preemptive attack on the other's forces as a way to gain a major early and sustainable edge in losses and thus in capabilities to prevail; this underscores the instability inherent in mutual, conventional counterforce capabilities and warfighting concepts.

By 2025, enhanced Chinese A2AD will have shrunk the gap between Chinese and U.S. military losses: Chinese losses would still be very heavy; U.S. losses, though less than China's, could be much heavier than in a 2015 war. Even as U.S. military victory became less likely, Chinese victory would remain elusive. Because both sides would be able to continue to inflict severe losses, neither one would likely be willing to accept defeat. History offers no encouragement that destructive but stalemated fighting induces belligerents to agree to stop. A severe, lengthy, militarily inconclusive war would weaken and leave both powers vulnerable to other threats.

The Importance of Nonmilitary Factors

The prospect of a military standoff means that war could eventually be decided by nonmilitary factors. These should favor the United States now and in the future. Although war would harm both economies, damage to China's could be catastrophic and lasting: on the order of a 25–35 percent reduction in Chinese gross domestic product (GDP) in a yearlong war, compared with a reduction in U.S. GDP on the order of 5–10 percent. Even a mild conflict, unless ended promptly, could weaken China's economy. A long and severe war could ravage China's economy, stall its hard-earned development, and cause widespread hardship and dislocation.

Such economic damage could in turn aggravate political turmoil and embolden separatists in China. Although the regime and its security forces presumably could withstand such challenges, doing so might necessitate increased oppressiveness, tax the capacity, and undermine the legitimacy of the Chinese regime in the midst of a very difficult war. In contrast, U.S. domestic partisan skirmishing could handicap the war effort but not endanger societal stability, much less the survival of the state, no matter how long and harsh the conflict, so long as it remains conventional. Escalating cyberwarfare, while injurious to both sides, could worsen China's economic problems and impede the government's ability to control a restive population.

International responses could, on balance, also favor the United States in a long and severe war: The support of U.S. East Asian allies could hurt China's military chances; responses of Russia, India, and NATO would have less impact; and NATO could neutralize Russian opportunistic threats in Europe. Japan's entry would be likely if the nation were party to the underlying dispute and almost certain if its territory (where U.S. bases are) were attacked. With Tokyo's more permissive interpretation of constitutional limits on use of force and programmed improvements in Japanese military capabilities, Japan's entry could make a difference by 2025 in the course and results of war. Heightened turmoil in the Middle East could be harmful to both Chinese and U.S. interests.

These findings reinforce the widely held view that a Sino-U.S. war would be so harmful that both states should place a very high priority on avoiding one. While expectations of huge costs make premeditated war improbable, they also demand strong crisis management and civilian control of the military by both governments. Given the extreme penalty for allowing one's forces to be struck before they strike, creating mutual forbearance at the outset of hostilities could be as difficult as it is critical. It requires an ability to cooperate, in effect, even after fighting has begun. Thus, the need for instant and unfiltered leader-to-leader communication is as great when hostilities begin as it is during crises that could lead to them.

Because the United States might be unable to control, win, or avoid major losses and costs from a severe conflict, it must guard against automaticity in executing, if not initiating, a sharp and prompt counterforce exchange. This demands fail-safe assurance of definitive presidential approval to carry out military plans, which in turn requires that military commanders provide the president with a range of feasible options.

Notwithstanding its improved A2AD capabilities, China has even more to lose from a severe conflict, yet it has less experience with civilian-military coordination during high-tech, high-speed warfare. China's leaders would be ill-advised to think that trends in military modernization point to a brief and successful war. More likely is a severe, drawn-out, militarily inconclusive one, with economic, political, and international effects that might favor the United States. China has as much cause as the United States to prevent automatic execution of military plans for a prompt and sharp counterforce exchange, including an unambiguous requirement for political decisionmaking.

Recommended Actions for the U.S. Military

Chinese restraint in attacking U.S. forces when hostilities begin depends on Chinese expectations of U.S. action. The U.S. military should not rely on plans to destroy China's A2AD capabilities in the

first moments of a conflict. Such reliance could undermine crisis stability, predispose the Chinese toward preemptive strikes, and heighten the danger of automaticity and inevitability of fierce fighting from the outset. Furthermore, the U.S. military should not prejudge or limit the president's options by having only a plan for immediate conventional counterforce attack, nor leave itself unprepared to carry out alternative plans. It would be far better for stability and at least as good for deterrence for the U.S. military to emphasize, in general, planning for a prolonged high-intensity war and to make this emphasis known to China. Signaling a specific predisposition to strike Chinese A2AD capabilities before they could be used against U.S. forces increases the risk that those capabilities would be used before they were themselves struck.

In parallel with measures to prevent crises from becoming violent and violence from becoming severe, the United States should try to reduce the impact of Chinese A2AD by investing in more-survivable weapons platforms and in its own A2AD capabilities: missiles, submarines, drones and drone-launching platforms, cyber, and ASAT. Such capabilities would deny the Chinese confidence of victory and would improve stability in crises, as well as in the critical initial stage of a conflict. But they would not restore U.S. military dominance and control or spare the United States major losses or economic costs in a severe conflict.

While keeping in mind the potentially huge costs of preparing comprehensively for a low-probability war with China, the United States should make certain prudent preparations:

- improve the ability to sustain and survive severely intense military operations
- enhance high-priority military capabilities of, and military interoperability with, allies and partners near China
- conduct contingency planning with Japan and other East Asian allies and partners
- consult with NATO regarding contingencies involving conflict with China, including possible Russian and Iranian reactions
- adopt measures to mitigate the interruption of critical products from China

- formulate options to deny China access to war-critical imports (e.g., fuels).

The U.S. Army, in its Title X and joint responsibilities, can contribute by

- investing in counter-A2AD capabilities—for example, mobile land-based missiles and integrated air defense to worsen expected Chinese military, naval, and air losses
- strengthening, advising, and enabling East Asian partners to mount strong defense
- assessing high-demand weapons and stocks in the event of a long, severe war.

Because such U.S. measures could be interpreted as hostile by the Chinese, the United States, including the U.S. Army, should also expand and deepen Sino-U.S. military-to-military understanding and measures to reduce risks of misperception and miscalculation.

Conclusion

Although advances in targeting enable conventional counterforce warfare and reduce U.S. warfighting dominance, they do not point to Chinese dominance or victory. War between the two countries could begin with devastating strikes; be hard to control; last months, if not years; have no winner; and inflict huge losses on both sides' military forces. The longer such a war would rage, the greater the importance of economic, domestic political, and international effects. While such nonmilitary effects would fall hardest on China, they could also greatly harm the U.S. economy and the United States' ability to meet challenges worldwide. The United States should make sensible preparations to wage a long and fierce war with China. But it should also develop plans to limit the scope, intensity, and duration of a war; tighten up its system of civilian control; and expand communications with China in times of peace, crisis, and war.

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CHAPTER ONE

Introduction

> *The ambitious should consider above all that [with] an equality of force between belligerent parties, all that princes can expect from the greatest advantages at present is to acquire . . . some territory which will not pay the interest on the expenses of war, and whose population does not even approach the number of citizens who perished in the campaign.*[1]
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> —Frederick the Great

Purpose

For all the studies and opinion pieces about how a war with China might start and should be fought, one finds little serious analysis, at least in the public domain, of what such a war might be like and what its consequences could be. This is a gaping omission, for China is at loggerheads with the United States over several regional disputes that could lead to military confrontation or even violence, and both superpowers have ample forces, industrial might, and people to fight long and hard across a vast expanse of land, sea, air, space, and cyberspace. This study seeks to start filling this gap by examining the alternative paths that a war between the United States and China might take, effects of each path on both sides, preparations the United States should make, and ways to balance U.S. war aims against costs should

[1] Frederick the Great quoted by Geoffrey Parker, "The Military Revolution," in Lawrence Freedman, ed., *War*, Oxford, UK: Oxford University Press, Oxford, 1994, p. 247.

war occur.[2] The study considers not only military factors but also economic, domestic political, and international ones, across a time frame from 2015 to 2025. Implications for the U.S. Army are highlighted.

While our primary audience consists of American policymakers and planners, we hope that their Chinese counterparts will also think through possible paths and consequences of war, for it could destroy much of what modern China has accomplished. There is no indication that the Chinese have given the potential impact of a war the rigorous attention it warrants.

Rationale

The need to think through war with China is made all the more pressing by developments in military technology and associated doctrine: Sensors, global positioning, weapon guidance, digital networking, and other capabilities used to target opposing forces have advanced to the point where *both* U.S. and Chinese military forces pose serious threats to each other. This creates the ability and a reason to strike enemy forces before they strike one's own, which is bound to influence both nations' war planning.[3] Military technology and planning are thus creating a bias toward sharp exchange of strikes from the start, with both

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[2] Perhaps the two most definitive U.S. official annual documents are the U.S. Department of Defense annual report to Congress, *Military and Security Developments Involving the People's Republic of China*, and the annual report of the joint Congressional-Executive Commission on China. Neither contains analysis of the range of possibilities and consequences of war with China. See Office of the Secretary of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2014*, Washington, D.C., April 24, 2014; and Congressional-Executive Commission on China, *2014 Annual Report*, Washington, D.C., October 9, 2014.

[3] Chinese warfighting doctrine is laid out in the People's Liberation Army's (PLA's) *Science of Military Strategy* and *Science of Campaigns.* (See Peng Guangqian and Yao Youzhi, eds., *Science of Military Strategy* [*Zhanlue Xue*], Beijing: Military Science Press, 2005; and Zhang Yuliang, ed., *Science of Campaigns* [*Zhanyi Xue*], Beijing: National Defense University Press, 2006.) The implication of U.S. reliance on attacking China's A2AD is found in various public explanations of the U.S. Navy and U.S. Air Force Air-Sea Battle concept, which has been subsumed under the Joint Concept for Access and Maneuver (see, for example, U.S. Naval Institute, "Document: Air Sea Battle Name Change Memo," January 20, 2015).

sides intent on gaining the upper hand or at least denying it to the other. To quote Chinese strategists: "[I]t has become possible to achieve operational objectives before an enemy can make a response. . . . If the PLA [People's Liberation Army] fights with a high-tech and powerful enemy, we must achieve operational suddenness."[4] The combination of such confidence and urgency might be misplaced and dangerous—and not just for China.

A hazard inherent in all war planning is that it sets and limits expectations of what will actually occur. Only a militarily dominant belligerent can afford to be so cavalier, and when it comes to China, the United States is no longer dominant, nor can it afford to be cavalier. As its military advantages vis-à-vis China decline, the United States can be less confident that war would conform to its plans. Improved Chinese forces, particularly for anti-access and area denial (A2AD), means that the United States cannot be sanguine about gaining operational control, destroying China's defenses, and achieving decisive victory if a war occurred.

Because Sino-U.S. war could be extremely costly even for the victor, it is not likely to result from premeditated attack by either side. Yet Sino-U.S. crises could occur and involve incidents or miscalculations that lead to hostilities. China could try to intimidate its neighbors below the threshold of U.S. intervention, yet misjudge where that threshold is. China could underestimate U.S. willingness to back Japan militarily in a crisis over disputed territory in the East China Sea. Moreover, the contradiction between China's claim of sovereignty over its 200-nautical-mile Exclusive Economic Zone (EEZ) and U.S. insistence that such zones are international waters beyond 12 nautical miles could bring forces into close and hazardous proximity if either side opts to enforce its stance.

A case in point of how conflicting Chinese and U.S. views could lead to war is found in the South China Sea. In support of China's

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[4] Zhang, 2006, p. 96. See also Jianxiang Bi, "Joint Operations: Developing a New Paradigm," in James Mulvenon and David M. Finkelstein, eds., *China's Revolution in Doctrinal Affairs: Emerging Trends in the Operational Art of the Chinese People's Liberation Army*, Washington, D.C.: CNA Corporation, December 2005, especially pp. 47–49.

objective of making virtually the entire South China Sea sovereign territorial waters, China has been building artificial islands, airstrips, and other militarily useful infrastructure—and claiming 200-mile EEZs around them. The United States will not accept this because it runs afoul of several U.S. interests: the principle of peaceful settlement of disputes, the principle of freedom of the seas, the fact that some 40 percent of world trade passes through the South China Sea, and the expectations of the Philippines and other U.S. friends that the United States will not condone Chinese unilateral action. Consequently, the Americans have steamed naval surface combatants through the very waters China is claiming and on which it is building. There seems little doubt that the Chinese will operate forces in these contested waters, in which case Chinese and U.S. forces will be present and actively shadowing or constricting the other side's forces. If, or as, a crisis occurs, the risk of a spark causing inadvertent conflict would be heightened, perhaps greatly. Moreover, political leaders on both sides may become less flexible, not more, with so much at stake, and military commanders could urge in favor of escalation either to deter or to prepare for conflict. While current odds strongly favor the United States militarily in the South China Sea, making Beijing more likely than Washington to back down, the improvement and extension of Chinese A2AD in that direction could make a crisis harder to defuse. As horrific as a Sino-U.S. war could be, it cannot be considered implausible.

As we will see, the cause of war and the importance each side attaches to it could affect how fiercely and long it will fight, though hostilities can create dynamics and fury that eclipse rational calculation. If both sides have substantial war-making capacity and neither one can gain operational dominance and control, there is a danger of prolonged ferocious fighting at great cost, even though both might plan and expect it to end quickly. Such conditions recall those of Europe in 1914, when a crisis triggered near-automatic execution of military plans to attack before being attacked, when the economies of the two sides were interlocked, and when both foresaw a short war. As fighting raged, casualties soared, and territory was lost and won, the

belligerents found themselves fighting over far more than an incident involving Serbian nationalists seeking to end Austria-Hungary's control of Bosnia-Herzegovina. Now, as then, the result could be huge military losses (then in foot soldiers, now in weapon platforms) and lasting economic damage on both sides.

In sum, the risk that some Sino-U.S. confrontation will lead to hostilities, the declining ability of the United States to gain military-operational control, the conventional counterforce capabilities (the capabilities of U.S. and Chinese forces to target and destroy each other) of both militaries, the vulnerability of both economies, and the potential for prolonged fighting with devastating results demand fresh but sober thinking about Sino-U.S. war. Because war with China, seen in this light, is not implausible and could be very dangerous and very demanding, the United States must be prepared for it. Already, military requirements for a Sino-U.S. war figure prominently in U.S. force planning and operating concepts (as they do in China's). But larger national requirements, depending on the war's intensity and duration, have not received equivalent attention. Both the United States and China need to be aware of what the costs of war might be. If advances in conventional counterforce capabilities are making war harder to control, leaders need political instruments to keep combat from destroying more than it can gain.

Factors Considered

As U.S. military dominance wanes, U.S. strategists must consider (as this study does) a range of contingencies and corresponding requirements. Recent research on strategic decisionmaking finds that unjustified faith in the ability to plan, control, and limit the duration of fighting is a common mistake in starting wars that end badly. After analyzing numerous historical cases, a RAND study concluded that "confidence that an adversary will comply with one's script and . . . that the results of a decision can be controlled is tantamount to assum-

ing away risk. When this leads to failure to prepare for bad results, the consequences can be that much worse."[5]

Essential though it is for U.S. armed forces to have plans to fight and win, excessive confidence in such plans could have detrimental effects on U.S. peacetime policy, crisis management, and wartime operations. At worst, inattention to the range of possible paths and consequences of war with China could lead the United States into one for which it is unprepared. Likewise, the Chinese would be profoundly wrong to think that improving their military capabilities would make a war with the United States controllable, winnable, and affordable.[6] As we will see, it could be that neither country is able to control, win, or afford a future war.

Paradoxically, as both sides hone their military strategies with the aim of controlling a war, they reduce the possibility of control. Military officers of both countries have spoken and written about how to achieve operational advantage, or at least avoid disadvantage, by striking the other side's forces at the outset of a conflict.[7] Given the "first-mover" advantage and the corresponding danger that perception of a climbing probability of hostilities would increase the pressure on each side's trigger finger, the goal of avoiding a war must compete with that of winning one. Likewise, as we will see, the goal of winning a war must be weighed against the goal of containing its costs. Given the potential military, economic, and political costs of a long conflict, each side wants to succeed quickly. Accordingly, the Chinese stress the need to strike intervening U.S. forces early and then to limit the duration and scope of fighting that ensues, especially by preventing attacks

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5 David C. Gompert, Hans Binnendijk, and Bonny Lin, *Blinders, Blunders, and Wars: What America and China Can Learn*, Santa Monica, Calif.: RAND Corporation, RR-768-RC, 2014.

6 The Chinese appear to be aware of how costly war with the United States could be (see David Finkelstein, "Chinese Perceptions of the Costs of a Conflict," in Andrew Scobell, ed., *The Costs of Conflict: The Impact on China of a Future War*, Carlisle, Pa.: Strategic Studies Institute, 2001, pp. 9–28).

7 See David C. Gompert and Terrence K. Kelly, "Escalation Cause: How the Pentagon's New Strategy Could Trigger War with China," *Foreign Policy*, August 3, 2013, among others articles on Air-Sea Battle.

on China itself. In turn, U.S. warfighting concepts rest on the logic that gaining operational control, limiting losses, and achieving victory might depend on disabling Chinese A2AD capabilities before they can be used to full effect to disable U.S. forces.

The strong preference of both states to avoid a long war is only natural, given expected military losses and other costs. Yet the very military strategies that call for each to strike the other's forces hard and early, perhaps preemptively, could work against a war-ending compromise and lead to the prolongation and expansion of war. Consider the major wars of the 20th century, in which the side that attacked first—Germany twice and Japan once—summoned the other side's will to fight, persevere, and ultimately prevail.[8] Indeed, it is wise to heed the simple verity that striking first does not ensure victory. Moreover, the path of a Sino-U.S. war might be determined not just by military operations but also by economic, political, and international effects and pressures. We will see that the longer war lasts, the more important nonmilitary factors might become.

The assumption that a Sino-U.S. war would be over quickly is not supported by evidence that either side would rapidly exhaust its war-making capacity. China and the United States have considerable military, economic, industrial, and demographic depth. If China is vulnerable to critical shortages in a war with the United States, it could be in losses of frontline military systems—its backup forces being largely obsolescent—or in oil supplies, of which it imports about 60 percent and has a declared strategic reserve of just ten days or so.[9]

As important as physical wherewithal is the political stamina of the two states. At first, the Chinese government could largely ignore domestic opposition, whereas the U.S. government could not. Yet the legitimacy of the Chinese state rests on its ability to provide for the material needs and improve the living standards of the population, which would be at risk by a costly war. Just as political will could deter-

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8 Germany's initial offensives on both fronts in both world wars and Japan's attack on Pearl Harbor appeared successful, but ultimately both countries were defeated.

9 "China Makes First Announcement on Strategic Oil Reserves," Reuters, November 20, 2014.

mine a war's duration, the war's dynamics—military success or failure, casualties, costs, and expectations of what further fighting might bring—could determine will. All else being equal, the more even the military capabilities, the less likely that one side's will would crack before the other's.

Finally, willingness to suffer losses and support prolonged fighting could be affected by the perceived stakes of the conflict. Thus, the path *to* war could affect the path *of* war, including its severity and duration. Consider several situations that could turn violent:

- Sino-Japanese skirmishing over disputed territory in the East China Sea, where the United States has said its defense treaty with Japan applies
- Chinese harassment to press its territorial claims in (and to) the South China Sea—against the Philippines or Vietnam, for example—in the face of U.S. insistence on peaceful dispute resolution and freedom of the seas
- uncoordinated military interventions by Chinese, South Korean, or U.S. forces in the event of a collapse of North Korea
- Chinese threat or use of force to intimidate or seize Taiwan
- an incident at sea, such as the downing of an aircraft, owing to forces operating in close proximity, perhaps in EEZ waters claimed as sovereign by China but as commons by the United States.

To illustrate, the United States might be willing to fight resolutely to prevent China from gaining control of the South China Sea, whereas China might seek a peaceful solution in the face of such American resolve. In contrast, the Chinese might be more determined to prevent Taiwan's independence from China than the United States is to prevent Taiwan's forcible unification with China. The analysis that follows does not deal with the merits of Sino-American quarrels or the probability that they will lead to war, but it does recognize that asymmetric interests can result in asymmetric resolve in the face of losses.

These factors suggest a need to examine with rigor how a Sino-U.S. war might be fought, how long it might last, and how its mounting costs and shifting outlook could affect the ability and will of each side to keep fighting. One hundred years ago, European leaders and

strategists, having formed alliances and adopted mobilization plans that would lead readily, if not automatically, from confrontation to war, erred further by assuming that war would be brief, either because their side would win quickly or because both sides would want to end the war before their armies and interlocking economies were devastated. Yet for four years neither side would compromise to end the stalemated carnage. A Sino-U.S. war would hold similar dangers: an incentive to strike first and a belief that fighting would end quickly and limit costs. Such thinking could turn a crisis into a conflict and leave the United States unprepared if war occurred and turned out to be lengthy.

How This Report Is Organized

This study is preliminary and conceptual; its cases are imagined, and its estimates only illustrative. With these qualifications in mind, the chapters to come pursue the following line of inquiry:

- What are the parameters of a Sino-U.S. war?
- How do Chinese and U.S. planners think about how such a war should or would proceed?
- What variables would describe a Sino-U.S. war?
- What different paths do these variables suggest?
- What military consequences and demands are implied by each path?
- What could be the impact on the U.S. and Chinese economies, on Sino-U.S. economic relations, on East Asian economies, and on the world economy?
- What internal political pressures and constraints could arise during a war?
- What international reactions might be expected?
- What are the implications for U.S. policy, requirements, and preparations, including expectations of the U.S. Army?

The report also has two appendixes, which provide additional information about possible military losses and economic effects.

CHAPTER TWO

Analytic Framework

We postulate that a war between the United States and China would be regional, conventional, and high-tech, and it would be waged mainly on and beneath the sea, in the air (with aircraft, drones, and missiles), in space, and in cyberspace. Although ground combat could occur in certain scenarios (e.g., a conflict over Korean unification), we exclude the possibility of a huge land war in Asia. We assume that fighting would start and remain in East Asia, where potential flash points and nearly all Chinese forces are located. Each side's increasingly far-flung regional disposition of forces and growing ability to track and attack opposing forces could turn much of the Western Pacific into a "war zone," with grave economic consequences. It is unlikely that nuclear weapons would be used: Even in an intensely violent conventional conflict, neither side would regard its losses as so serious, its prospects so dire, or the stakes so vital that it would run the risk of nuclear retaliation by using nuclear weapons first. We also assume that China would not attack the U.S. homeland, except via cyberspace, given China's minimal capability to do so with conventional weapons. In contrast, U.S. nonnuclear attacks against military targets in China could be extensive.

Two variables would largely define the path a war might take: intensity (from mild to severe) and duration (from a few days to a year or more); thus, we present four cases. The main determinant of intensity is whether, at the outset, U.S. and Chinese political leaders grant or deny their respective militaries permission to execute their plans to attack opposing forces unhesitatingly, which would precipitate severely

intense combat. The main determinant of length, given that both powers have the potential to fight a long war, is whether and when either one loses the will to fight or concludes that continuing to do so would be counterproductive.

We categorize the effects of each case as military, economic, domestic political, and international. Military losses—that is, decline in military capabilities—would mainly consist of destroyed or disabled weapon platforms and systems and C4ISR (command, control, communications, computing, intelligence, surveillance, and reconnaissance). No attempt is made to analyze potential casualties, though very crude estimates could be derived from platform losses.[1] Economic costs are defined here as reductions in gross domestic product (GDP) from loss of trade, consumption, and income from investments abroad. The disruption of energy supplies is captured in effects of trade contraction. Costs of assets seized, forces destroyed, and infrastructure damaged, though potentially sizable, are excluded because they would not immediately affect GDP. Domestic political responses could involve support, impatience, opposition, instability, or impairment of the war effort. International responses could favor one side or the other, perhaps to the point of intervention, and could pressure one or both sides to cease fighting.

Our time frame is 2015–2025. The current rate of advances in military technology, especially in Chinese A2AD and in cyberwar and anti-satellite (ASAT) capabilities of both sides, implies a potential for major change in the decade to come, which dictates examining cases in 2025 distinct from cases in 2015. Economic conditions will also change between now and 2025—with China's economy possibly overtaking the U.S. economy in size, Chinese investments abroad growing, and both economies relying more than ever on computer networking—though not enough to alter qualitatively the economic impact of a war. Attempting to specify domestic political and international effects of

[1] Broadly stated, on the assumptions of no large land combat, extensive strategic bombing, or use of nuclear weapons, loss of life would be comparatively low and not a good index of the scale of fighting or costs.

war a decade from now would be even more speculative. Thus, 2025 is analyzed distinctly from 2015 only in the military dimension.

U.S. and Chinese Thinking About War

U.S. and Chinese thinking about war suggests that both sides expect a conflict to be sharp, with China planning (and hoping) for a short one, and the United States more confident of victory if fighting persists. As far as the public record shows, neither side has analyzed systematically the effects of a long war or seized on the idea (discussed later) of deliberately and mutually restricting the violence.

Chinese military thought has evolved since the early Maoist notions of "people's war" and a "war of annihilation" between diametrically opposed ideological systems. Emerging concepts reflect China's growing ability and inclination to threaten or use force for limited purposes nearby (e.g., blocking Taiwan's independence or enforcing maritime claims) without finding itself at war with the United States. Yet war with the United States cannot be excluded and could involve strikes on China, staggering losses and costs, and eventual defeat. So China has had to prepare, if it is unable to deter U.S. intervention, to avert defeat.[2]

This situation has stoked Chinese interest in A2AD—in essence, conventional counterforce—enabled especially by increasing Chinese prowess in targeting technologies.[3] A2AD raises the costs and thus the threshold of U.S. intervention in a conflict involving China. By reducing the U.S. threat to China, A2AD might build a shield behind which China might feel freer to use force. In addition, U.S. military advantages have steered Chinese thinking about warfighting toward taking the initiative, making sudden gains, degrading U.S. strike forces, and then limiting the ensuing conflict's geographic scope, weapons, targets, and duration. While the Chinese regard U.S. aircraft carriers and

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[2] See, for example, Finkelstein, 2001, pp. 9–28.

[3] Chinese A2AD might also be motivated geopolitically by the desire to increase the vulnerability and thus reduce the presence of U.S. military strength in the Western Pacific.

regional air bases as prime targets, they also see C4ISR as an American Achilles' heel, and so have expanded their arsenal and planning to include cyberwar and ASAT.

However, China's risk in attempting to achieve a fait accompli is that the United States would strike back (or strike first), expand and extend the conflict, bring its warfighting superiority to bear, visit destruction on China itself, sever Chinese sea links, and impose a harsh peace. The Chinese ought also to worry, if they do not already, that a long war could cause internal instability and encourage separatism. In sum, the Chinese have scripted early strikes on U.S. forces and a quick cessation of hostilities, with little room for error.

In parallel with such Chinese thinking about how to fight, contain, and conclude a war with the United States, Chinese military strategists have taken interest in the idea of "war control."[4] This concept seeks to resolve the problem of how to avoid crushing defeat without giving up the option of using force when it is in China's interest to do so. Chinese thinking on war control goes like this: Overriding goals of national stability and development apply no less in war than in peace, dictating that China be able to control and limit war should it occur. Military initiative should be used to frame the scale, scope, and course of war, as well as to induce the enemy to end it on China's terms. It is essential not only to prevent expansion, escalation, and prolongation but also to guide combat toward an advantageous resolution at the lowest price to China. Therefore, forces and operations need to be controlled by political leaders who are mindful of China's transcendent goals. Throughout hostilities, China needs to assess progress and seize chances to end the war with a stable outcome that protects Chinese sovereignty, independence, territorial integrity, institutional security, and economic lifelines.[5]

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[4] See Lonnie Henley, "War Control: Chinese Concepts of Escalation Management," in Andrew Scobell and Larry M. Wortzel, eds., *Shaping China's Security Environment: The Role of the People's Liberation Army*, Carlisle, Pa.: Strategic Studies Institute, U.S. Army War College, 2006.

[5] Liu Shenyang, "On War of Control—Mainly from the Military Thinking Perspective," *China Military Science*, April 2014. Liu is the deputy commander of the Jinan Military District and a lieutenant general of the PLA.

This is a tall order indeed, especially in a conflict with a stronger power. The Chinese are aware of this challenge, and they frequently discuss their prior success in defeating superior military powers despite inferior capabilities.[6] While Chinese emphasis on war control is not new, the Chinese might have growing confidence in its feasibility, owing to enhancement of Chinese A2AD and evidence that the United States is not invincible and is not guaranteed to retain control of a conflict: "No matter how strong a country may be, how mighty its military strength is, it is impossible [for it] to take total control of the entire situation. The United States launched wars in Afghanistan and Iraq [and] is still trapped."[7]

Increasing belief in China's ability to manage crises and war proactively, rather than reacting or having to launch an all-or-nothing opening salvo, could embolden Chinese behavior in peace and crises. It could also affect the path that a Sino-U.S. war could take. While consistent with the concept of early attacks on U.S. strike forces, war control contemplates "conflict in its entirety," including *postwar* China, Asia, and the world. It suggests the Chinese are mindful of the need to balance war aims against costs should war occur. More specifically, postulating that controlling the scale, scope, and duration of hostilities could be critical implies Chinese awareness of possibilities other than fierce conventional counterforce exchanges. One such possibility is that Chinese civilian leaders would try to keep hostilities limited, hoping that U.S. war-weariness delivers a settlement favoring China. In any case, President Xi Jinping's efforts to strengthen political control over the PLA speak to a critical prerequisite of war control.

U.S. thinking about war is also in flux. For some time, the United States was confident that its vastly superior strike power could destroy Chinese forces straightaway. Of course, even with Chinese naval and air forces shattered, the United States knows it would struggle mightily and pay dearly if it engaged in land war on Chinese soil (an idea then–U.S. Defense Secretary Robert Gates famously suggested would war-

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6 See Zhang, 2006.

7 Liu, 2014.

rant psychiatric treatment for U.S. leaders[8]). As China's A2AD capabilities improve, the United States has begun to consider striking them before losing its strike forces.[9] While there is operational logic to this, the fact that Chinese A2AD systems are mainly homeland-based raises risks of escalation, as well as risks of crisis instability insofar as it could prompt the Chinese to strike preemptively.

In addition to reflecting Chinese and U.S. doctrine, the intensity and duration of a war could depend on the command and control (C2) precepts and practices of the two sides. U.S. C2 increasingly stresses flexibility, subordinate initiative, responsiveness to circumstances, horizontal ("joint") collaboration, and delegation of authority, albeit under political guidance.[10] Notwithstanding the general trend toward increasingly decentralized military C2, U.S. political leaders could be expected to take intense interest in the finest details of Sino-U.S. hostilities, whether or not they would take control of operations.

In contrast to emerging U.S. C2 philosophy, Chinese C2 traditionally emphasizes hierarchy, deference to leaders, reliance on central direction, top-heavy organization, reluctance to delegate authority, and adherence to script.[11] Despite Chinese awareness of the need to loosen up C2 for the sake of agility in the face of uncertainties of war, war control reiterates the need for top-down direction.[12]

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8 Thom Shanker, "Warning Against Wars Like Iraq and Afghanistan," *The New York Times*, February 25, 2011.

9 Norton A. Schwartz and Jonathan W. Greenert, "Air-Sea Battle: Promoting Stability in an Era of Uncertainty," *The American Interest*, February 20, 2012.

10 See, for example, the seminal work of David Alberts and Richard E. Hayes, *Power to the Edge: Command and Control in the Information Age*, Washington, D.C.: U.S. Department of Defense Command and Control Research Program, 2003. There has also been a reactionary approach to U.S. C2, whereby improved information and communications has given top command the means to exert more, not less, control over operations—the so-called 3,000-mile-long screwdriver micromanagement tendency.

11 Dennis J. Blasko, "The PLA Army/Ground Forces," in Kevin Pollpeter and Kenneth Allen, eds., *The PLA as Organization v2.0*, Vienna, Va.: Defense Group Inc., 2015, p. 260.

12 To date, although there has been a significant change to the PLA *force* structure, there is little evidence to suggest that the *command* and *logistics* structures have adapted to address the more likely combat and nontraditional security contingencies that might occur beyond China's borders and near seas. PLA doctrine foresees many forms of joint campaigns exe-

In tension with the case for tight central control on both sides, military plans and capabilities slant toward a prompt, sharp counterforce exchange, as noted. Both sides are averse to a long war: the Chinese because their prospects decline if and as the United States brings more and more strike-power to bear; the Americans because of their grudging but growing respect for Chinese A2AD capabilities; and both because of the potential military losses and economic costs of prolonged fighting. Yet history shows that war planners tend to claim, and leaders tend to accept, that war will end much sooner than it actually does.[13] As we will see, the more level the battlefield, the longer a Sino-U.S. war could last.

Despite military pressures for a high-intensity conflict, policymakers' doubts about the outcome and fears about the costs could predispose them to try to restrict hostilities. While political control of military operations is more in the Chinese hierarchical C2 style than the American distributed style, leaders of both states could resist appeals to "use or lose" potent but vulnerable forces. While restricted hostilities could be ended readily by leaders determined to minimize losses and avoid escalation, it is also possible that such hostilities could drag on if losses were tolerable and concessions hard.

The less vital the conflict's cause and outcome are to the belligerents, the more inclined and able leaders might be to avoid fierce counterforce exchanges. But war can roil politics, twist psyches, alter stakes,

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cuted beyond the Chinese mainland that will put naval, air force, or missile units in the lead role. Currently, the existing peacetime chain of command would have to shift to an ad hoc wartime war zone command structure to accommodate the operational changes necessary to accomplish these long-distance joint missions. More-efficient command structures have been discussed in the Chinese military media (mostly talk about flattening the command system), but major changes to the command structure (beyond the reduction of the number of military regions in the 1980s) that was created decades ago in a much different threat environment have yet to be implemented.

[13] Underestimating the duration of conflict was a significant factor in most major strategic blunders of modern times, including Napoleon's invasion of Russia, Germany's decision during World War I to attack neutral shipping, Hitler's invasion of the Soviet Union, Japan's attack on Pearl Harbor, China's invasion of Vietnam, the Soviet invasion of Afghanistan, Argentina's invasion of the Falklands, and the U.S. invasion of Iraq. See Gompert, Binnendijk, and Lin, 2014.

and produce new calculations. Just as the path of war between China and the United States is hard to plan, it is also hard to forecast. For this reason, this study eschews prediction and detailed scenarios in favor of analyzing variables, alternative generic cases suggested by those variables, and consequences of those cases.

Variables of War

Again, a Sino-U.S. conflict can be defined largely by its intensity and duration. While the intensity of fighting could fall anywhere along a continuum, from mild to severe, it suffices for our purposes to analyze the two poles.

Mild connotes tightly restricted operations, in forces committed, weapons used, targets struck, geography, and tempo. Mild conflict might take the form of sporadic fighting, occasional losses, and posturing of forces for advantage, probing, or signaling. Because both Chinese and American forces are capable of fierce warfare, if it is mild, it might be because Chinese and American leaders alike choose it to be. In this case, they are intent on minimizing destruction and avoiding escalation, sparing much of the enemy's targetable forces, even if it means forfeiting a military advantage. Since it would be highly improbable and unstable for one side but not the other to resist counterforce pressure, willingness to do so is presumably communicated, by words or actions, between civilian or military leaders.[14] In effect, a mild conflict implies that the sides *together* try to control a war that neither one, left to itself, can control.

Severe intensity connotes fierce, open-ended operations (short of nuclear war) by each side to gain a decisive advantage by destroying the other side's forces. As already explained, the prospect of such fighting is implied by the fact that both sides have the ability and motivation

[14] We do not consider a case in which one side is committed to a mild conflict while the other seeks an intense one. Since both China and the United States are capable of intense fighting, the side that is biased toward restraint must seek to either end the conflict or intensify its attacks.

to conduct conventional counterforce warfare.[15] Severe conflict means that the goal of winning trumps that of limiting the costs of a war. It also implies that each side hopes to weaken the other's will to wage war, which might be less of a consideration if fighting is moderated. All sorts of conventional weapons might be used against whatever military capabilities their sensors can locate and target: moving forces, staging forces, operating bases, logistics flows and infrastructure, air and naval bases, computer networks, satellites, sensors, and military C4ISR. In the future, cyberwarfare against military, dual-purpose, and civilian systems could figure importantly in a severely intense war.

Whether with kinetic or nonkinetic (namely, cyber) weapons, the highest targeting priority for China would be U.S. strike platforms, bases, and force concentrations in the region. For the United States, it would be Chinese A2AD capabilities, mainly located in China. A critical distinction between mild and intense conflict is that the United States would strike targets on Chinese soil in the latter but not the former. Given the improbability that China would sue for peace when attacked on its territory, strikes on the mainland could prolong a severe war.

For analytic purposes, duration could be *brief* or *long*, the former meaning days or weeks and the latter a year or so. Longer wars are also possible but not considered here. Several factors could prolong a Sino-U.S. war: the absence of a clear winner, the determination of both sides to persist in light of the stakes, the results of fighting to that point, the expected results of continued fighting, and the inability to settle on terms of a truce. High military losses and economic costs, as expected in a severe conflict, could either strengthen or weaken resolve, depending on psychological and political factors that are hard to predict. Both sides might opt to pace and restrict operations as a way of conserving their ability to fight, but, again, the urge to use targetable forces against targetable forces could be strong.

While intensity depends on the use and loss of engaged U.S. strike and Chinese A2AD capabilities, the significance of total military

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[15] As in strategic nuclear theory, counterforce implies an all-out attempt to destroy the other side's forces, which otherwise are sure to be used.

potential, including reinforcements and mobilization capacity, could increase the longer the war's duration. Likewise, economic resilience, political support, and international assistance could affect the ability of one or both sides to continue fighting. Both the United States and China have considerable, if asymmetric, capacity to prolong a conflict that neither one is militarily compelled or politically ready to end.

A critical question is whether one side or the other can achieve such a clear advantage in the early stages of an intense conflict that the other has little choice but to concede. The U.S. ability to achieve such an advantage is declining as China improves its A2AD capabilities. At the same time, China's increasing ability to prevent a decisive, early U.S. advantage does not necessarily translate into its ability to conclude a war quickly on its terms.

Because a mild conflict would place smaller demands on total war-making capacity than a severe one would, it could have a greater potential than the latter to drag on—even becoming a "frozen conflict." Conversely, and obviously, a long, severe conflict would involve greater costs on both sides than other cases in military, economic, and political terms. That a long, severe conflict would be the most costly does not mean it is the least likely. The disposition at any moment to keep fighting depends not only on results, losses, and costs to that point but also on expectations of what is to come. As long as neither side expects to lose, hostilities might continue.

The United States presently has more military capacity than China to wage a long, severe war. For one thing, the United States has substantial forces located in or designated for other regions that it could bring to bear on a conflict in the Western Pacific, though security conditions in those regions might make it reluctant to do so.[16] (Over the years, the Pentagon has crept away from its traditional standard of having sufficient total forces to win two major wars simultane-

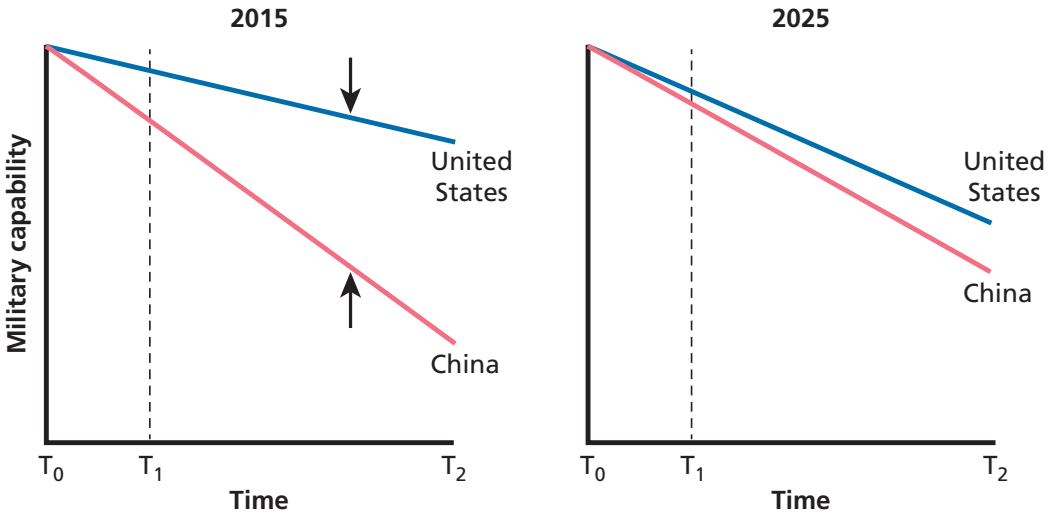
[16] Although the United States has global responsibilities and interests that could be jeopardized by diverting capabilities to the Asia-Pacific, we assume that the United States would nevertheless commit such capabilities to the theater in the event of a long, severe war with China. Even if another contingency involving U.S. interests developed simultaneously in another region, U.S. forces already in the region could still degrade Chinese A2AD capabilities faster than Chinese A2AD capabilities could degrade U.S. forces.

ously.) Furthermore, U.S. forces today could degrade Chinese A2AD capabilities faster than Chinese A2AD capabilities could degrade U.S. forces. While both might suffer significant losses in early severe hostilities, U.S. prospects currently look better than China's.

Future conditions could differ, owing to the potential for greater losses of U.S. forces from Chinese A2AD and, in turn, reduced Chinese losses from those U.S. forces. Moreover, as U.S. military-operational advantages wane, China's position as the "home team" could become less of a liability and more of an asset, owing to internal lines of communication and movement. A corollary of these shifting military odds is that the expected duration of war, however intense, could *increase* as Chinese capabilities improve, for the simple reason that China will retain more warfighting capability and face less pressure to yield. More generally stated, the less lopsided a war is likely to be, the less likely it is to end quickly in victory by the stronger side. Since Chinese and U.S. capabilities, operating concepts, incentives, and expectations all point to severe hostilities, this could mean that a war could last longer and be costlier than has been assumed or, paradoxically, than either side would want.

The hypothesis of a long, severe, and costly war is depicted in Figure 2.1 as notional graphs of expected cumulative declines, or attrition, in military capability over time in 2015 and 2025, a period during which Chinese A2AD capability is expected to improve relative to U.S. strike capability. The dotted lines in Figure 2.1 represent a hypothetical moment (T_1), within days of the start (T_0), when the sides take stock and decide whether to continue fighting. For our purposes, the figure separates a short conflict from a long one. T_2 is posited as one year; although fighting could continue beyond that, the pattern of losses would remain more or less the same. The first graph (2015) shows that China and the United States both suffer significant but unequal losses in the brief early stage and can expect increasingly divergent losses as war goes on, favoring the United States. The second (2025) shows the effects of improved Chinese A2AD in years to come: China suffers reduced, though still sizable, short-term losses; the United States suffers increased short-term losses; and the gap in expected long-term losses closes.

Figure 2.1
Notional Cumulative Decline in Military Capabilities in a Severe Conflict over Time, 2015 and 2025



NOTES: T_0 = the start of the conflict; T_1 = a hypothetical moment, within days of T_0, when the sides decide whether to continue fighting; T_2 = one year.
RAND *RR1140-2.1*

The intensity and duration of war are largely decided at T_0 and T_1, respectively. The moment hostilities begin, Chinese and U.S. leaders choose whether or not to authorize execution of military plans, which are mainly to attack the forces of the other before those forces can attack. The alternative is to decide, mutually, that fighting must be tightly controlled and sharply restricted—in other words, mild. Thus, the T_0 decision might determine the war's intensity, which in these graphs is assumed to be severe from T_0 to T_2. At T_1, after several days of severe force-on-force violence, the leaders take stock of losses, remaining capabilities, and expected further losses and decide whether to keep fighting—in effect, they choose between a short and a long war. Again, a decision by only one side to end fighting amounts to capitulation. Note that China's enhanced A2AD in 2025 will reduce the gap between its losses and U.S. losses at T_1. Because it could be less clear which side is losing at T_1, a severe war might be more likely to be prolonged in 2025 than in 2015, despite mounting costs.

These considerations highlight the fallacy of assuming that particularly violent hostilities would not last long (as European leaders did in 1914!). Again, the Chinese have favored and planned for a brief, intense war because they think it is the only way not to lose. However, this perspective ignores that the United States is looking at a mirror image: After brief and intense fighting, U.S. *prospective* losses will be less than those of China. Yet if the United States has until now thought that an intense war would be short because Chinese losses would exceed U.S. losses by a growing margin as fighting persists, it should think again.

Going forward, both China and the United States need to contemplate the possibility of a severe, lengthy, uncontrollable, and devastating, yet indecisive, conflict. If war somehow broke out and both sides faced such prospects, they would not necessarily be motivated to stop fighting by agreement. History offers little encouragement that opponents locked in a bloody but inconclusive war will agree to foreshorten it, rational as that might be.[17] Therefore, the potential automaticity and instability inherent in conventional counterforce places an onus on political leaders to review, question, approve, and reexamine warfighting plans.

Depending on choices made by political leaders among options offered by military commanders, either a short war or a lengthy one could be intense or mild; we examine all four cases. At the same time, it seems more likely that a long but mild conflict would result more from initially mild fighting than from initially intense fighting and, conversely, that intense fighting will remain intense as long as the war lasts. After all, both world wars started with ferocity, which persisted and even intensified more or less for their durations. Of course, it cannot be ruled out that a war could begin fiercely but then settle into a low-grade one, as both sides conclude they cannot win, refuse to concede, and try to moderate their losses.

One of the most vexing trade-offs leaders face in determining how intensely and how long to fight is between the cost of fighting and the

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[17] By 1917, the combination of staggering losses and diminished confidence of victory led voices in Germany, Great Britain, and France to suggest the need to negotiate, but both sides opted to fight on (until the U.S. entry into the war decided the outcome).

cost of losing. The former will tend to motivate restricting the conflict even if it means forfeiting advantage; the latter will tend to motivate doing what it takes to win, including intensifying, expanding, and prolonging the conflict. To illustrate, the United States might feel reasonably confident that it could win in an intense war with China yet face such severe costs that it might rather keep the war limited and accept an outcome short of victory, though presumably consistent with U.S. interests. Conversely, China might regard the price of losing a war with the United States over, say, Taiwan as so high that it would endure the costs of an intense, and perhaps lengthy, conflict. Broadly speaking, as prospects of either side clearly winning decline, as might be the case in coming years, both sides ought to place greater weight on the costs of fighting—a key reason why both must rigorously think through what consequences a war could have.

The costs of a conflict are mainly a function of intensity and duration.[18] Least costly, obviously, is a brief, mild war; most costly, a long, severe one. The kinds of costs vary over time: Initially, military losses will dominate; in time, economic costs will grow, and military losses might decline as counterforce capabilities do. Domestic political constraints and pressures might be in play from the outset, but these, too, could gain strength and even sway leaders' choices as military losses and economic costs mount. Likewise, international reactions and uncertainties—alarm, condemnation, opposition, political support, physical support, and realignments—might grow over time and with severity.

Using duration and intensity as the main variables in describing the path of war suggests a matrix of four cases: *brief, mild*; *long, mild*; *brief, severe*; and *long, severe*. (Other possibilities are not examined but could be interpolated.) The assumptions for each case are shown in Table 2.1.

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[18] The costs of war also vary as a function of the vulnerability of the combatants. In the case of a Sino-U.S. war, forces in the theater are increasingly vulnerable, and dependence on global (including each other's) resources, products, and markets makes both economies vulnerable. However, China would be far more exposed to homeland attack and economic isolation.

Table 2.1
Matrix of the Four Cases

	Brief	Long
Mild	**Premise:** Leaders restrict hostilities and quickly agree to end conflict. **Description:** • Hostilities are triggered by incident or miscalculation, possibly involving a third party. • Political leaders take immediate and tight control of operations, communicate directly, withhold authority for major attacks on opposing forces, and agree to end conflict with no change in the status quo. • Hostilities end within a week or so.	**Premise:** Leaders restrict hostilities but do not agree to end conflict. **Description:** • This is an extension of the brief, mild case. • Political control keeps hostilities limited. • Forces of both sides are augmented and operate in close proximity. Incidents and losses are sporadic but continue. • Leaders communicate but cannot agree on terms to end fighting. • Low-grade conflict is economically and politically sustainable, as neither side wants to concede or to wage costly war. • Conflict persists for a year or more.
Severe	**Premise:** War-winning logic and counterforce strategies govern from the outset. **Description:** • Stakes are very important for both sides. • Crisis becomes unstable because of counterforce pressures. • Military concept of operations executed immediately by both sides. China uses kill chain to attack U.S. aircraft carriers and air bases. Simultaneously, U.S. attacks kill chain. • There are selective U.S. strikes on China. • Both sides wage selective cyberwar. • Military-operational exigencies dictate fast pace and severe intensity. • Political leaders get control only by agreeing on terms to end conflict. • Conflict lasts a week or so.	**Premise:** Severe fighting persists per war-winning logic, absence of clear winner, deepened antagonism, and strengthened resolve. **Description:** • Leaders cannot or choose not to stop. • Losses make compromise harder, not easier. • Extensive U.S. strikes on China. • Nonnuclear escalation occurs: geographically, and with respect to targets, weapons, expanded cyberwar, and ASAT. • Both sides face continued high losses. • Both sides bring more forces into action; China mobilizes for long war as losses mount. • Conflict persists for a year or more.

Note once again that the main factor in determining whether a war is restrained or severe from the outset is whether political leaders give their militaries the green light for counterforce attacks. One can speculate on both institutional and rational-choice grounds whether restraint would be exercised. U.S. civilian control of the military is firm in principle and practice. Though the current Chinese president has felt a need to tighten control over the PLA, little information is available to assess how current Chinese civilian and military leaders would handle command authority during wartime. Even with adequate institutional safeguards on both sides, the logic of striking without delay is potent. Because hesitation could result in operational losses and disadvantages too great to overcome, the "safe" course might be to strike enemy forces promptly, if not first.

Note also that lower stakes and inadvertent violence are less likely to precipitate severe hostilities than higher stakes and a considered choice of war are. Furthermore, a long conflict will likely conform to the level of intensity established at its outset. In the severe case, though costs are great on both sides, neither one is likely to have clearly better prospects. Also, if the stakes are important, high losses can work against rather than for accommodation and cessation. Even if fighting is restricted and sporadic, its continuation might appear less costly, at least politically, than conceding the matter at hand.

Upper and Lower Limits

Before estimating the possible losses, costs, and other effects of these four cases, it is worth considering the lower and upper limits of a war's severity.

One can easily imagine a conflict between China and the United States below the threshold of what has been described here as "mild." Just as Russia has used nonviolent means, along with some violent ones (e.g., so-called little green men) to intervene in and carve out chunks of Ukraine, China has and uses an array of military and nonmilitary means to advance its interests at the expense of its neighbors and of the United States. Indeed, China is pursuing such a strategy (*sans* little

green men) to press its sweeping territorial claims in the East China and South China Seas: interfering with other states' vessels, placing oil rigs and artificial islands in disputed waters, and menacingly reminding neighbors that "China is a big country and other countries are small countries, and that's just a fact."[19] Clearly, the Chinese seek to isolate and pressure neighbors without triggering U.S. intervention. Just as clearly, the United States and its allies, including Japan, can and will engage in reciprocal actions.[20] To the extent both China and the United States are involved, one can see a sort of conflict that is short of violent use of force. U.S. strategy to thwart such a Chinese campaign is important but not germane to this study. Although the costs and consequences of such "gray area" conflict would be even lower than those of a mild armed conflict, as defined earlier, there is some possibility that regional commerce could suffer as a result.

At the other extreme, the long, severe case is not necessarily the upper limit of what war could entail and cost. The United States and China are the world's strongest nations, with the largest economies, two of the three biggest populations, vast human and natural resources, and unsurpassed war-making capacity. While the two countries have important convergent peacetime interests, there is also considerable "strategic distrust" between them.[21] Should they go to war, distrust could turn to deep antagonism, and the logic of conflict could make possible levels of violence, duration, and cost that might appear unjustifiable in times of peace. In modern history, wars involving great and more or less evenly matched powers have sucked in numerous third parties (not just prewar allies), lasted years, metastasized to other regions, and forced belligerents to shift their economies to a war footing and their societies to a war psyche. Whole populations suspend

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[19] Chinese Foreign Minister Yang Jiechi's quoted in John Pomfret, "U.S. Takes a Tougher Tone with China," *The Washington Post*, July 30, 2010.

[20] In their bilateral security consultations, the Japanese and Americans have identified Chinese "gray area" aggression as contingencies that require heightened attention and joint planning.

[21] The apt term *strategic distrust* was coined in Kenneth Lieberthal and Wang Jisi, *Addressing U.S.-Chinese Strategic Distrust*, Washington, D.C.: John L. Thornton China Center, Brookings Institution, 2012.

normal life; large fractions of them are prepared or forced to throw their weight behind their nation's fight. Not just states but opposing ideologies, worldviews, and political systems might be pitted against each other. Whatever their initial causes, such wars' outcomes might determine which great powers and their blocs survive as such. Prewar international systems collapse or are transformed to serve the victors' interests. Thus, the costs of failing outweigh those of fighting.

Consider how the Napoleonic wars engulfed all of Europe, how World War I destroyed several empires and enlarged others, and how allied goals in World War II became the complete destruction of German fascism and Japanese militarism, rather than merely stopping their aggression. In such cases, war aims and acts of destruction might exceed belligerents' early intentions by a wide margin. Regimes of the losing side usually vanish. The threshold of tolerable costs might rise as fighting persists and the penalty for losing increases. There have been exceptions: Prussia's victories in the three wars of German unification and the American victory over Spain come to mind. But these were one-sided affairs between mismatched powers ending quickly and decisively, without spreading or drawing in other powers.

Would a war between China and the United States resemble the great-power wars of modern history—expansive, systemic, desperate? Would hostilities erase all residue of mutual interest in an international order that has served both countries well? Would the escalating costs of conflict seem tolerable compared with those of losing? Would the enemy be demonized? Would populations become targets?

The only honest answer to such questions is that no one knows. As we will see, the increasing probability of inconclusive hostilities between China and the United States might suggest a bias toward a long, severe, bitter war. Moreover, it cannot be excluded that such a Sino-U.S. war could develop characteristics of the two great-power wars that became "world wars": drawing in others, engulfing and spilling beyond the region, locking the two political systems and populations into a fight to finish, ending in unconditional surrender, dictated peace, occupation, regime extinction, and domination.

At the same time, the expansion and immense destructiveness of modern great-power wars have resulted mainly from large and ferocious

land campaigns and strategic bombing, aimed at conquest. Although one cannot rule it out, such war aims and fighting seem unlikely in even a major Sino-U.S. war unless it stemmed from miscalculations during a conflict on the Korean peninsula. Moreover, the United States would restrain, if not avoid, strategic bombing of China lest it precipitate nuclear war. Having said this, it could be that the long, severe case offered here for analytic purposes might not set the upper limit of a possible war between China and the United States.

The possibility of a long and severe war, in which willingness to accept hardship and to inflict harm grows as fighting lasts, returns us to the question of whether such a war might result in the use of nuclear weapons. We assess the probability of that to be very low and so do not include the effects of nuclear warfare in our analysis of losses and costs.[22] The general reason for this is that *mutual deterrence* prevails in the Sino-U.S. strategic-nuclear relationship.[23]

Nonetheless, it is worth examining the circumstances in which the risk of nuclear war, however low, could be at its highest. In a prolonged and severe conflict, it is conceivable that Chinese military leaders would propose and Chinese political leaders would consider using nuclear weapons in the following circumstances:

- Chinese forces are at risk of being totally destroyed.
- The Chinese homeland has been rendered defenseless against U.S. conventional attacks; such attacks are extensive and go beyond military targets, perhaps to include political leadership.
- Domestic economic and political conditions are growing so dire that the state itself could collapse.
- U.S. conventional strikes include or are perceived to include capabilities that are critical to China's strategic deterrent—notably intercontinental ballistic missile (ICBMs), ballistic missile sub-

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[22] Obviously, losses and costs to both countries in the event of nuclear war could be at least an order of magnitude greater than the worst of the conventional-war cases examined here.

[23] The stability of the Sino-U.S. nuclear relationship is explained in Chapter Four of David C. Gompert and Phillip C. Saunders, *The Paradox of Power: Sino-American Strategic Restraint in an Age of Vulnerability*, Washington, D.C.: Center for the Study of Chinese Military Affairs, National Defense University, 2011.

marines (SSBNs), strategic C2—which the Chinese interpret as preparation for a U.S. first strike or intended to leave China vulnerable to U.S. nuclear coercion.

Thus, it cannot be entirely excluded that the Chinese leadership would decide that *only* the use of nuclear weapons would prevent total defeat and the state's destruction. However, even under such desperate conditions, the resort to nuclear weapons would not be China's only option: It could instead accept defeat. Indeed, because U.S. nuclear retaliation would make the destruction of the state and collapse of the country all the more certain, accepting defeat would be a better option (depending on the severity of U.S. terms) than nuclear escalation. This logic, along with China's ingrained no-first-use policy, suggests that Chinese first use is most improbable.[24]

At the same time, if Chinese leaders faced such a dire situation *and* also had reason to think that the United States was preparing to launch a first strike to disable China's deterrent, they might consider the first use of nuclear weapons (even though, objectively, it might not be rational). But this also seems like an extremely remote possibility for the simple reason that the United States would have no reason to resort to nuclear weapons if it were already on the verge of conventional victory over China.

Even so, it is important for the United States to be aware of potentially dangerous ambiguities involved in attacks on targets that the Chinese could regard as strategic: attacks on missile launchers, even if intended only to degrade China's theater-range missile capabilities; attacks on high-level military C2, even if intended only to degrade China's conventional-operational capabilities; cyberwarfare attacks on strategic systems; attacks on Beijing (whatever the reason); and heightened U.S. ballistic missile defense operations that could be seen as intended to degrade Chinese strategic retaliation. Keep in mind, as well, that the Chinese might perceive U.S. conventional capabilities

[24] As a corollary, if China were to use nuclear weapons first, it could be a "warning shot"—a relatively harmless detonation in a remote area—as opposed to nuclear attack on U.S. forces, territory, or allies.

(e.g., global strike, cyberwarfare, ASAT) as potentially aimed at disabling China's strategic deterrent.

As low as the probability of Chinese first use is, even in the most desperate circumstances of a prolonged and severe war, the United States could make it lower still by exercising great care with regard to the extensiveness of homeland attacks and by avoiding altogether targets that the Chinese could interpret as critical to their deterrent.

As for U.S. initiation of nuclear war with China, this seems even more far-fetched. Unlike circumstances in which the Soviet Union could not be stopped from defeating NATO and dominating all of Europe unless the United States resorted to battlefield nuclear weapons, the stakes of a Sino-U.S. war would not justify the incalculable harm to the United States from Chinese retaliation. More bluntly put, the Soviet threat to NATO was deemed existential, whereas as the Chinese threat to U.S. allies and interests in East Asia is not. In line with this, current U.S. declaratory policy concerning use of nuclear weapons makes no allowance for first-use in the event of war with China, even were it going badly.[25]

In sum, it seems unlikely that war between China and the United States would "go global," or "go nuclear." In either case, the losses, costs, and other consequences for both and the world would dwarf those estimated for a severe and prolonged conventional conflict in the Western Pacific. Still, the possibility of a true cataclysm is all the more reason to think through carefully the paths and risks of war.

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[25] U.S. policy reserves the option of nuclear first use mainly in retaliation for a biological attack.

CHAPTER THREE

Weighing the Costs: Military, Economic, Political, and International

With the understanding that the consequences of world war and of nuclear war fall outside our scope, we can now examine possible effects, losses, costs, constraints, pressures, and responses that could occur during Sino-U.S. war, depending on its severity and duration.

Military Losses

Calculating expected military losses in a Sino-U.S. armed conflict is exceedingly difficult. For purposes of understanding the major issues surrounding whether and how such a conflict might be fought, it is sufficient to estimate *indicatively* the nature and seriousness of losses of each side, how they might compare, how they might vary according to the severity and duration of the conflict, and how they might affect decisionmaking on both sides. Accordingly, the method used here is to meld the broad judgments of several analysts.[1] Of interest are losses relative to prewar capabilities, losses of each side compared with the other, and residual warfighting capabilities, all of which would bear on both the ability and will to continue fighting.

[1] The judgments here are informed by the Sino-U.S. conflict scenarios from RAND Arroyo Center research by Terrence K. Kelly, David C. Gompert, and Duncan Long, which will be presented in *Smarter Power, Stronger Partners: Exploiting U.S. Advantages to Prevent Aggression*, Santa Monica, Calif.: RAND Corporation, RR-1359-A, forthcoming.

Severe cases for both 2015 and 2025 are considered, anticipating Chinese A2AD improvements.[2] Losses in brief conflicts (up to T_1) are among forces engaged and targetable from the outset. Additional losses in prolonged conflicts (from T_1 to T_2) could include reinforcements—perhaps nearly all extant Chinese air and naval forces and those U.S. air and naval forces not deemed indispensable for missions elsewhere (e.g., in Europe or the Middle East).

Prospective losses in forces during a severe Sino-U.S. conflict would depend on the counterforce capabilities and operations of the two sides, of course. To expand on an earlier observation, advances in information technology and other targeting systems—sensors, on-board and off-board precision weapon guidance, global positioning, and data networking and processing—are making weapon platforms, such as surface ships and manned aircraft, increasingly vulnerable at greater distances. In addition to increasing the reward of attacking first and the penalty of not doing so, these capabilities point to the potential for heavier, faster losses among vulnerable forces than at any time in modern conventional warfare.[3]

The assessments that follow try to capture this dynamic. They include broad-brush narratives of the cases and graphs that illustratively depict losses. The categories covered include combat aircraft, surface naval vessels, submarines, missiles and missile launchers of all types (land, sea, and air), and C4ISR. Aircraft losses could result from loss or degradation of air bases and aircraft carriers, as well as air combat and air defense. Surface ship losses could result from attacks by other surface ships, submarines, air, or missile attacks. Submarines are vulnerable to anti-submarine warfare (ASW), including opposing submarines, and strikes on bases. Losses in missile launchers could occur from air or missile strikes or destroyed platforms (e.g., ships), as well as from missiles expended. Mobile land-based missile launchers, which Chinese forces possess in greater abundance than U.S. forces, might

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[2] U.S. force improvements are assumed to be those provided for in the exiting long-range U.S. defense program.

[3] This counterforce phenomenon does not apply to cyberwarfare or ASAT warfare, in which attacks do not diminish the other side's capability to attack.

be less vulnerable. C4ISR losses could result from cyberwar or ASAT attacks. Cyberwar and ASAT attacks could also compound losses of forces that depend on C4ISR for their effectiveness. Additional details are in Appendix A.

An important consideration in estimating U.S. losses and comparing them with Chinese losses is the share of total (global) U.S. forces engaged. The greater that share, the better the United States would do militarily. However, committing more U.S. forces to the theater would also increase those that are targetable and vulnerable to Chinese A2AD. Very broadly speaking, more U.S. forces would mean a larger and more violent war, with higher losses on both sides but higher expectations of U.S. victory. The share of U.S. forces committed would be determined by trading off the demands of the war against the effect on security in other regions of diverting U.S. forces. The latter, in turn, could be affected by the extent to which U.S. allies, notably NATO, could "cover" for the diversion of U.S. forces elsewhere. Our main interest is in naval, air, land-based missile, air-defense, and intelligence, surveillance, and reconnaissance (ISR) capabilities, since Sino-U.S. war presumably would not involve large land combat. The U.S. Department of Defense has said that 60 percent of U.S. air and naval forces will be based in the Pacific by 2020.[4] Accordingly, the assumption here is that in the course of a prolonged war with China, the United States would commit 60 percent of its global capabilities; U.S. military losses are estimated relative to that. If the figure were higher in the event, losses on both sides could increase.

Table 3.1 provides estimates of military losses for cases of severe fighting for one year, more or less. It is assumed that cases of tightly restricted fighting would involve minor and roughly equivalent military losses.

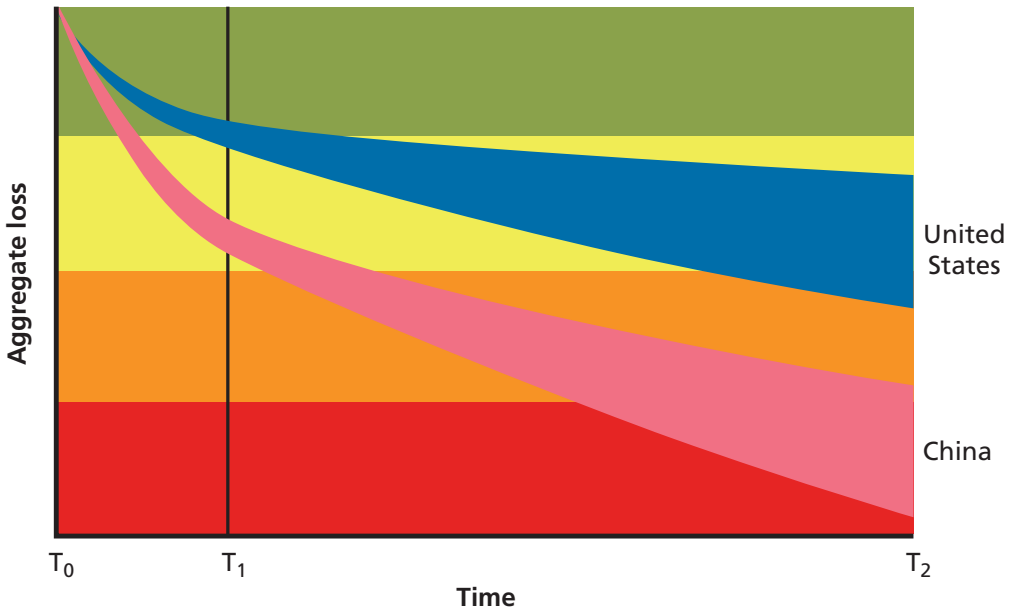
Estimated losses can be presented graphically, similar to the earlier graphs of hypothetical losses in 2015 and 2025. Figure 3.1 shows *aggregate* cumulative losses, with graphs for each of the force categories discussed in Appendix A. Losses are shown from top to bottom, start-

[4] Robert Work, Deputy Secretary of Defense, statement to the Council of Foreign Relations, January 20, 2015.

Table 3.1
Estimated Military Losses, Severe Case, 2015

Capability	U.S. Losses	Chinese Losses
Air forces	Some possibility of early loss of a carrier to Chinese submarines or missiles and of use of regional air bases to missiles. Significant aircraft losses to Chinese surface-to-air missiles until suppressed.	Sharp loss of air power from U.S. air strikes, air intercept, and air defense. Reinforcements are less capable and more vulnerable. China can keep some aircraft hidden but out of use.
Surface naval forces	Significant early losses of forward fleet because of submarine and missile attacks. Losses can be limited by keeping fleet out of range, or out of effective use. Strikes on Chinese anti-naval forces reduce U.S. losses in time.	Heavy initial and sustained fleet losses because of U.S. air power and submarines. Naval bases vulnerable. Chinese shipbuilding capacity only takes effect in the long term (post-T_2) and is vulnerable.
Submarines	Largely invulnerable to poor and quickly depleted Chinese ASW capability.	Older submarines vulnerable to U.S. ASW. A few advanced ones survive and threaten U.S. surface forces.
Missile launchers (land, surface, submarine, air) and missile inventories	Surface ship-launch and short-range air-launch platforms suffer attrition. Submarine-launch and long-range air-launch survive. Major expenditure of missiles.	Land launchers survive if mobile or hidden. U.S. air power and missiles eventually wear down Chinese missile launchers. Also susceptible to degraded C4ISR. Large fraction of modern missiles expended early, leaving older, less accurate shorter-range ones.
C4ISR (computer systems and satellites)	Some loss because of Chinese cyberwar and ASAT, which are difficult to suppress.	Some loss because of U.S. cyberwar and ASAT capabilities. Also, untested C2 processes could unravel under pressure of war.
Aggregate	Chinese counterforce capabilities take a major early toll on the United States but then have less of an effect as they are degraded by superior U.S. counterforce.	U.S. counterforce capabilities take a major toll early and throughout as Chinese A2AD is degraded.

Figure 3.1
Estimated Aggregate Loss in Military Capability, Severe Case, 2015



NOTES: Losses are shown from top to bottom, starting with full capabilities when the war begins. The green band signifies modest losses; yellow, significant losses; orange, heavy losses; and red, very heavy losses.
RAND *RR1140-3.1*

ing with full capabilities when the war begins. The green band signifies modest losses; yellow, significant losses; orange, heavy losses; and red, very heavy losses.[5]

Illustratively, each band might be thought of as roughly a tenth or so of effective capabilities committed. These estimates are based on raw judgments of several analysts, rather than on calculations predicated on detailed war games or computer simulations. The width of the curves signifies uncertainty, which increases the longer fighting lasts.

Note that China would suffer significantly greater losses than the United States by T_1, as its weapons are expended and its platforms and bases are struck. Thereafter, as more U.S. strike power is committed and Chinese defenses are degraded, the differential in losses contin-

[5] Depending on the category, decline in effective capabilities could be measured in ships or aircraft lost, in missiles used or destroyed, or in the degradation of C4ISR performance because of loss of space assets or networks.

ues or expands. Though large, this gap has been reduced by Chinese deployment of advanced A2AD capabilities, prompting the U.S. military to consider striking those capabilities, which are mainly on Chinese territory.

At present, if the United States were to discount the risk of escalation and unleash its strike power at the stroke of T_0, Chinese losses at T_1 and beyond could be even greater than shown in the figure. Likewise, China might be able to reduce the gap in losses at T_1 and beyond by attacking U.S. strike forces preemptively. The potential difference in losses depending on which side strikes first (though not shown graphically) underscores the instability inherent in counterforce capabilities and concepts on both sides.

Presumably, China would be as aware as the United States that the gap in losses at T_1 would keep growing in a prolonged war (as shown). Using our scale, the decline in Chinese capabilities (as defined earlier) by T_2 could be extremely heavy, whereas U.S. losses could be significant but less heavy. Apart from a preemptive attack on U.S. forces, China's best chance, though perhaps not a very good one, is to seek a quick end to severe fighting. The wide gap in losses from outset to finish suggests that Chinese planning for a short war is wishful, perhaps based on a belief that the United States would not have the stomach to fight after suffering significant losses (which would be a misreading of the history of U.S. war making).[6]

By 2025, China will likely have more, better, and longer-range ballistic missiles and cruise missiles; advanced air defenses; latest-generation aircraft; quieter submarines; more and better sensors; and the digital communications, processing power, and C2 necessary to operate an integrated kill chain. The United States, it is assumed here, will have modernized versions of the platform-centric force-projection capabilities on which it has relied for some decades, despite their growing vulnerability to Chinese A2AD. Prospective losses in a severe war would change accordingly, as shown in Table 3.2 and Figure 3.2.

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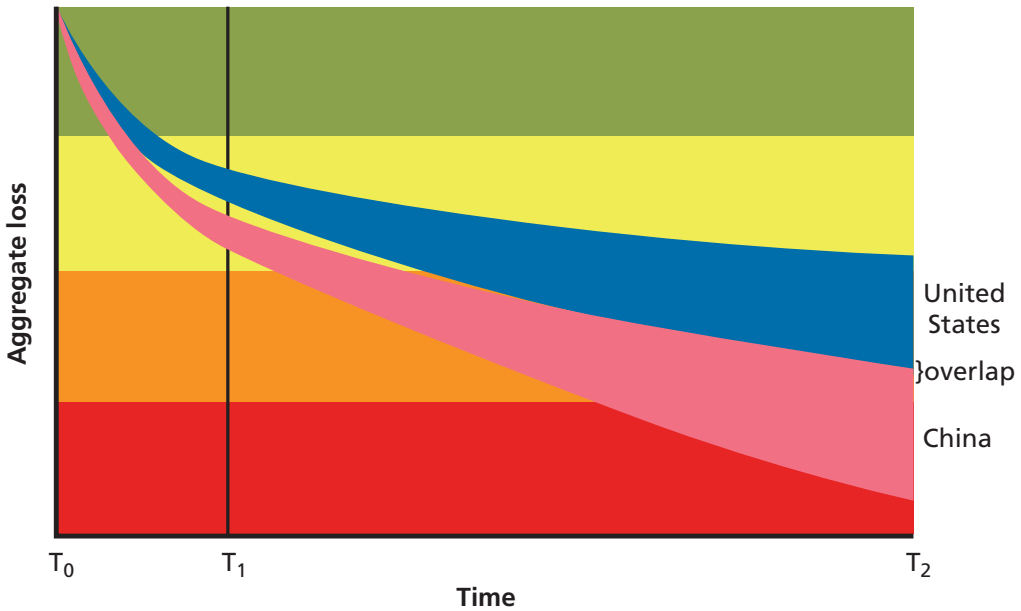
[6] Think of World War II (after Pearl Harbor), the Korean War, the Vietnam War, and the recent wars in Iraq and Afghanistan.

Table 3.2
Estimated Military Losses, Severe Case, 2025

Capability	U.S. Losses	Chinese Losses
Air forces	Early and subsequent loss of carriers to submarines and missiles. Degraded use of regional air bases because of missile attack. Aircraft losses to improved Chinese air defense and air force.	U.S. air power losses improve survivability of Chinese air power. China has more-advanced aircraft and improved refueling. Losses are still substantial.
Surface naval forces	Major losses early and throughout from improved Chinese submarines, missiles, and air power. Somewhat mitigated by increased weapon ranges.	Marginally less vulnerable because of degraded U.S. sea and air power. U.S. submarines cause major losses.
Submarines	Somewhat more vulnerable to improved Chinese ASW.	More-advanced submarines are less vulnerable to ASW than older ones.
Missile launchers (land, surface, submarine, air) and missile inventories	Increased vulnerability of surface-naval and air-launch platforms. Large missile expenditures starting early and throughout.	Reduced vulnerability of launchers to U.S. air and missile attacks. Increased numbers and sophistication. Large expenditures early and throughout.
C4ISR (computer systems and satellites)	Sharp initial and sustained degradation from improved Chinese cyberwar and ASAT capabilities.	Sharp initial and sustained degradation from improved U.S. cyberwar and ASAT capabilities.
Aggregate	Improved and less vulnerable Chinese A2AD produces increased U.S. losses early and throughout.	Increased loss of U.S. strike forces could reduce losses of Chinese forces, though still greater than U.S. losses early and throughout.

Improved Chinese A2AD would increase losses of U.S. strike forces, which in turn might lower Chinese losses. Note especially that while the United States would still have an advantage at T_1, it could be less pronounced. Because actual losses at T_1 and expected losses thereafter do not indicate a clear winner, there could be a greater inclination on both sides to continue hostilities. If so, the gap between U.S. and Chinese losses could be smaller in 2025 than in 2015, and could even

Figure 3.2
Estimated Aggregate Loss in Military Capability, Severe Case, 2025



NOTES: Losses are shown from top to bottom, starting with full capabilities when the war begins. The green band signifies modest losses; yellow, significant losses; orange, heavy losses; and red, very heavy losses.
RAND *RR1140-3.2*

shrink after T_1. The overlap of the loss curves by T_2 indicates that the United States might not be able to gain a decisive military-operational advantage in 2025 even with the prolongation of fighting.

Apart from the gap between them, note that U.S. and Chinese military losses in a long, severe 2025 war would both be very heavy—U.S. losses because of China's improved A2AD, and China's losses despite its improved A2AD. By T_2, Chinese losses could remain very heavy, whereas U.S. losses in the region could be heavy (notably, heavier than in 2015). This implies a sizable depletion in overall U.S. military capabilities and an even larger depletion in overall Chinese military capabilities, with implications for postwar security in this and other regions. Yet with no clear winner, neither side able to gain control, and heavy losses causing deep anger on both sides, prospects for agreement to foreshorten the war could be lower than they are now.

Economic Costs

Owing to the size, interdependence, and global integration of the U.S. and Chinese economies, a Sino-U.S. war could be immensely costly for the belligerents, East Asia, and the world. These vulnerabilities are a major reason why war, at least a premeditated one, is so unlikely, even though the two states are and likely will remain at odds over a number of regional disputes. Should a war nevertheless occur (perhaps from a mismanaged crisis), the scale of economic costs would depend on its severity and duration. In contrast to military losses, even a mild level of hostilities, if prolonged, could inflict serious economic harm. But the focus here is on the economic effects of severe hostilities.

Estimating economic costs of a Sino-U.S. war is, if anything, more difficult than estimating military losses, for such costs depend not only on military developments but also on the response of sundry economic actors and markets with limited degrees of state control: government policy responses, possible economic warfare, the fate of industrial enterprises, the effect on and reactions of consumers and workers, international financial institutions, debt and equity markets, and third parties (i.e., trading partners). Accordingly, the analysis that follows is meant not to be definitive but instead illustrative of the sorts and scale of costs in the different cases.

To summarize current economic conditions:

- China's GDP is about $9 trillion and has been growing at 7 percent annually, although many economists believe that growth will slow, and some argue that growth rates are exaggerated.[7]

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[7] International Monetary Fund, World Economic Outlook Database, October 2014. For more information about projections of future growth and the accuracy of reported growth rates, see Center for Strategic and International Studies, "Long-Term Growth Rates: Can China Maintain Its Current Growth?" Washington, D.C., October 2009; Bob Davis, "China Growth Seen Slowing Sharply over Decade," *The Wall Street Journal*, October 20, 2014; Yukon Huang, "China's Misleading Economic Indicators," *Financial Times*, August 29, 2014; and Derek Scissors, "China's Real GDP [Growth] Is Slower Than Official Figures Show," *Financial Times*, January 20, 2015.

- U.S. GDP is about $17 trillion and is growing at 2 percent annually.[8]
- China's exports to the United States were about $440 billion in 2013—roughly 20 percent of U.S. imports, 20 percent of Chinese exports, and 5 percent of China's GDP.[9]
- China's imports from the United States were about $122 billion in 2013—roughly 6 percent of Chinese imports, 8 percent of U.S. exports, and under 1 percent of U.S. GDP.[10]
- China holds about $1.7 trillion in U.S. securities, including about $1.3 trillion in U.S. Treasury bonds—about 25 percent of all U.S. Treasury debt held by foreign countries.[11]
- Total Chinese direct investment in the U.S. is roughly $8 billion, compared with total U.S. direct investment in China of over $60 billion.[12]
- International trade is about 45 percent of China's GDP and 25 percent of U.S. GDP.
- Chinese consumption is one-third of GDP (and climbing); U.S. consumption is two-thirds of GDP.[13]

Key asymmetries include China's greater reliance on international trade in general (especially with regard to energy supplies), reliance on exports to the United States in particular, and holdings of U.S. debt; U.S. reliance on imports from China; U.S. direct investment in China; and higher U.S. consumption as share of GDP. In considering the eco-

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8 International Monetary Fund, 2014.

9 U.S. Census Bureau, "2013: U.S. Trade in Goods with China," 2013; World Trade Organization, "China," trade profile, September 2014.

10 U.S. Census Bureau, 2013.

11 U.S. Department of the Treasury, Federal Reserve Bank of New York, and Board of Governors of the Federal Reserve System, *Foreign Portfolio Holdings of U.S. Securities*, April 2014.

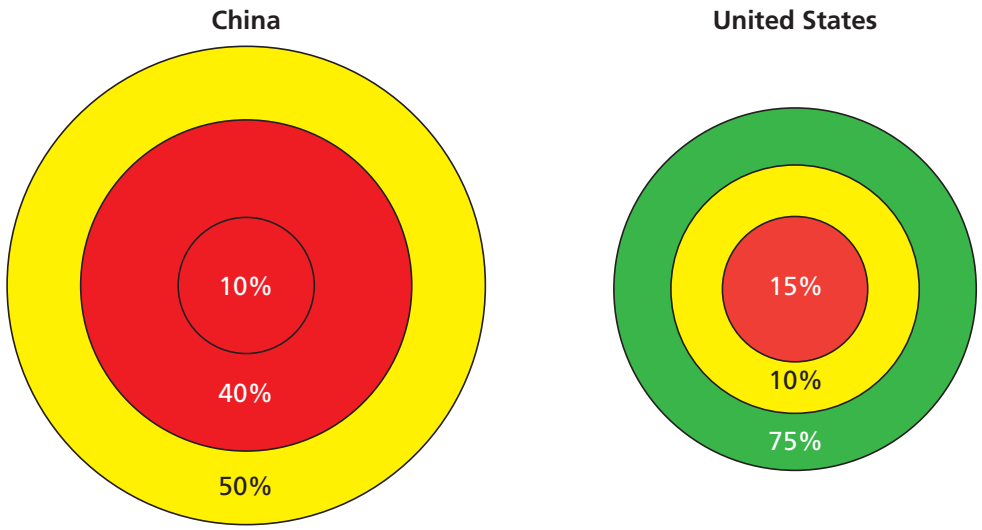
12 U.S. Bureau of Economic Analysis, "Balance of Payments and Direct Investment Position Data (U.S. Direct Investment Position Abroad on a Historical-Cost Basis and Foreign Direct Investment Position in the United States on a Historical-Cost Basis)," n.d.

13 World Bank, "Household Final Consumption Expenditure, etc. (% of GDP)," World Development Indicators, 2014b.

nomic costs of war, perhaps the most significant asymmetry is that intensive and extensive combat in the Western Pacific would disrupt nearly *all* Chinese trade (95 percent of it being seaborne), whereas the United States would mainly suffer the loss of bilateral trade with China and, to a much lesser extent than China, trade with the rest of East Asia.[14] This might be thought of as the *war-zone effect* on trade.

This particular asymmetry between China and the United States is depicted in concentric circles in Figure 3.3. The center circles represent *bilateral (Sino-U.S.) trade*, the middle circles represent *other regional trade*, and the outer circles represent *other global trade*. The percentages shown in each circle indicate the share of that country's global trade. The depiction is intended as impressionistic, not to exact

Figure 3.3
Illustrative War-Zone Effect on Trade



NOTES: The center circles represent bilateral (Sino-U.S.) trade, the middle circles represent other regional trade, and the outer circles represent other global trade. The percentages shown in each circle indicate the share of that country's global trade. The difference in size represents China's greater dependence on trade. Red indicates extreme vulnerability of trade in the event of a major war; yellow, significant vulnerability; and green, minor vulnerability.

RAND *RR1140-3.3*

[14] China's access to the rest of East Asia would be affected much more than would U.S. access.

scale. The difference in size represents China's greater dependence on trade than the United States.

The figure also shows the potential vulnerability of trade in the event of war. Red indicates the extreme vulnerability of trade in the event of a major war; yellow, significant vulnerability; and green, minor vulnerability.

Thus, China's bilateral trade with the United States and other regional trade could be extremely vulnerable, whereas for the United States, only trade with China would be greatly affected. Overall, most of China's trade (except for the small overland fraction) is vulnerable to disruptions in seaborne trade in the Western Pacific, whereas most U.S. trade is not.[15] This, as we will see, has asymmetric effects on GDP in the event of war.

The vulnerability of Chinese trade begs a further question: Would the United States forcibly blockade nonmilitary sea and air transport to and from China? Keep in mind that both sides have large arrays of capabilities to destroy ships and aircraft—anti-surface and anti-air missiles, air strike power, submarines, and surface-naval strike power, not to mention cyberwar—as well as incentives to use them. Also, while the United States has sophisticated sensors to distinguish military from nonmilitary targets, during war it will focus on finding and tracking the former; moreover, Chinese ISR is less sophisticated and discriminating, especially at a distance. This suggests very hazardous airspace and sea space, perhaps ranging from the Yellow Sea to the South China Sea. Assuming that non-Chinese commercial enterprises would rather lose revenue than ships or planes, the United States would not *need* to use force to stop trade to and from China.[16] China would lose a substantial amount of trade that would be required to transit the war zone. The United States expressly threatening commercial shipping would be

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[15] China could expand its overland trade during a war, especially with Russia. But that would hardly make a dent in China's loss of access to the rest of the world for markets, capital goods, and materials.

[16] The United States could inflict significant damage on Chinese shipping, as it has done in previous severe conflicts against other countries. For example, U.S. submarines exacted tremendous losses on Japanese shipping vessels in World War II; these losses were arguably critical to Japan's economic collapse during the war.

provocative, hazardous, and largely unnecessary. So we posit no U.S. blockade, as such.

The analysis that follows assumes severe fighting, the duration of which (from T_0 to T_1 to T_2) would determine the magnitude of economic effects. Rough costs are estimated in terms of effect on GDP from disruptions of three economic functions: trade, consumption, and income from overseas investments. The effects of energy-supply disruption to China are considered as a component of the contraction in trade, because most natural gas and crude oil consumed by China are imported. It is assumed that the current conditions, importance, and relationships of the U.S. and Chinese economies will not change in character by 2025 (unlike expected changes in military capabilities over that time).[17]

Only direct GDP losses are considered; no attempt has been made to estimate the effect of war on the regional and global economies and, in turn, the rebound impacts on the U.S. and Chinese economies. Also not included are costs with little immediate effect on GDP per se (e.g., damaged infrastructure, lost military systems, prompt and long-term care for casualties, seized assets), though any of these costs could be enormous.

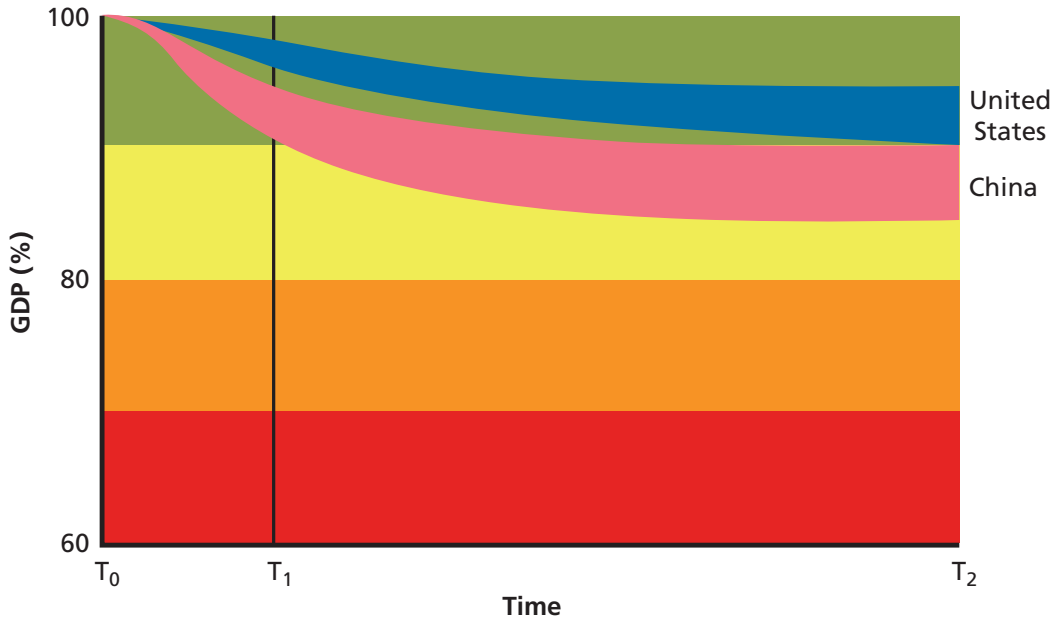
Neither have we quantified a factor that could make China's losses substantially worse than those indicated below: the deepening integration of the East Asian economy. The economies of China and its neighbors (Japan, South Korea, Taiwan, and, increasingly, Southeast Asia) are highly interdependent, owing to production *value networks*. Much of East Asian trade is composed of intermediate goods and components: Inputs produced in one country are shipped to another country to be married with parts made elsewhere and assembled into a final product before being fed into market distribution systems. While such integration has contributed to the efficiency and productivity that have enabled China and its neighbors to prosper, it also heightens East Asian economies' vulnerability to disruption, more so than traditional end-

[17] Consummation of new East Asian or transpacific trade pacts will, if anything, deepen economic integration and trade expansion in the coming decade.

product trade would. China could reduce its dependence on such interlocking regional production only with great difficulty and cost.

The primary effect on GDP is from loss of trade. We are most confident in the estimated collapse of Sino-U.S. bilateral trade, which empirically falls to virtually zero between belligerents in the course of war. But it is important also to take account of China's loss of regional and other global trade, given the war-zone effect. As shown in Figures 3.4 and 3.5, whether losses are confined to bilateral trade or may include all trade makes a big difference in China's GDP loss. Figure 3.4 shows the GDP impact from losses in trade, consumption, and income from investment, albeit with only bilateral Sino-U.S. trade affected. Figure 3.5 shows the GDP impact from losses in trade, consumption, and income from investment, with Chinese trade with the United

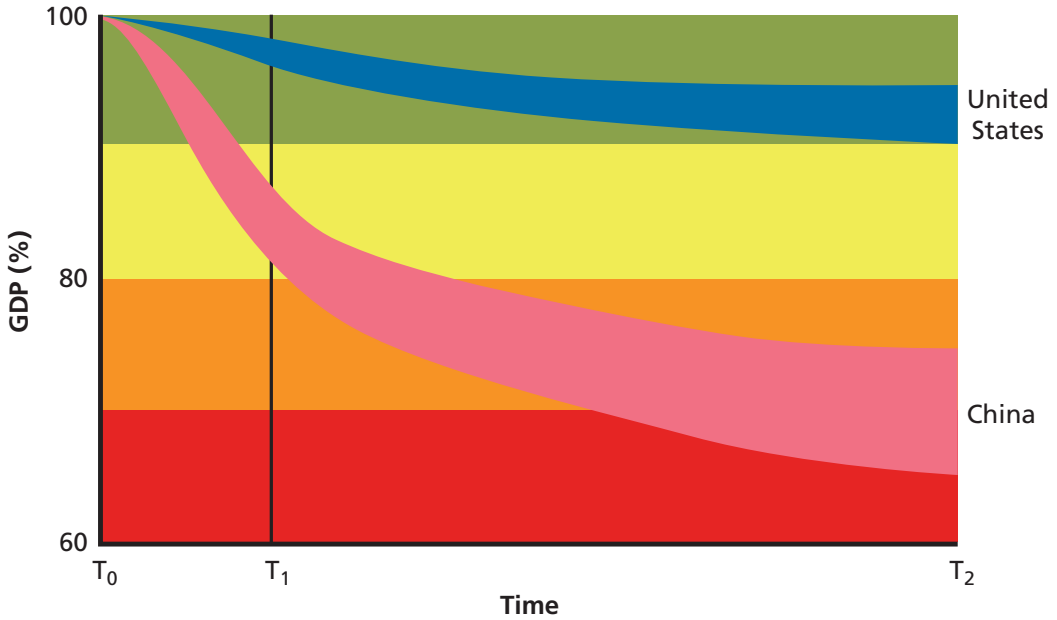
Figure 3.4
Estimated Aggregate Effect on GDP from Losses in *Bilateral* Trade, Consumption, and Income from Investment



NOTES: This graph illustrates the percentage by which GDP may decrease during war as a result of losses in bilateral trade, consumption, and income from investment. The upper limit of the y-axis indicates GDP at the start of war; as the war continues, GDP at each point in time is given as a percentage of GDP at the start of war. The widths of the curves suggest uncertainty.

RAND *RR1140-3.4*

Figure 3.5
Estimated Aggregate Effect on GDP from Losses in *Overall* Trade, Consumption, and Income from Investment



NOTES: This graph illustrates the percentage by which GDP may decrease during war as a result of losses in overall (bilateral, regional, and global) trade, consumption, and income from investment. The upper limit of the y-axis indicates GDP at the start of war; as the war continues, GDP at each point in time is given as a percentage of GDP at the start of war. The widths of the curves suggest uncertainty.

RAND *RR1140-3.5*

States, the region, and the rest of the world affected. The widths of the curves suggest uncertainty. As with military losses, T_2 is posited to be one year.

Now, consider what could happen to GDP if China's non-U.S. regional and global trade, nearly all of it seaborne, were also affected by widespread fighting in the Western Pacific. We assume that China's regional trade drops by 80 percent and its other global trade drops by 50 percent. (One reason regional and global trade do not drop even more is that Chinese shippers might be ordered by the state to continue operating.)

Indicative estimates of U.S. and Chinese economic costs of a prolonged severe war are summarized in Table 3.3, the analysis and sourcing for which can be found in Appendix B.

Table 3.3
Estimated Economic Costs After One Year of Severe War

Category	U.S. Costs	Chinese Costs
Trade	90 percent decline in bilateral trade	90 percent decline in bilateral trade 80 percent decline in regional trade 50 percent decline in global trade
Consumption	4 percent decline	4 percent decline
Income from foreign direct investment (asset loss excluded)	$9 billion loss	$500 million loss
Effects on GDP	Could decline by 5–10 percent	Could decline by 25–35 percent

The estimated decline in China's GDP can be compared with Germany's 29 percent decline in real GDP during World War I, when Germany itself was spared heavy damage, as well as Germany's 64 percent GDP decline and Japan's 52 percent GDP decline during World War II, when both were heavily attacked.[18] Of course, to suggest that the Chinese would be unwilling or unable to fight on despite such costs is to ignore that the Germans and Japanese withstood much greater costs, along with widespread destruction, and did not surrender until left with no choice. Moreover, the Chinese state would presumably work to limit the impact on consumption, as we have estimated. Still, the effects on China and its citizens of a one-third reduction in GDP would obviously be grave and lasting. In contrast, the effects of a protracted and severe conflict on the United States and its citizens, while severe, would also be the equivalent of a serious recession.

In a restricted and mild conflict, economic costs from lost trade, consumption, and income from overseas holdings would be similar in kind, substantially less in magnitude, and asymmetrically harmful to China.

In a more speculative vein, both China and the United States would be vulnerable to economic costs in the event that cyberwar,

[18] Robert J. Barro, "Rare Disasters and Asset Markets in the Twentieth Century," *Quarterly Journal of Economics*, Vol. 121, No. 3, August 2006.

which is likely to occur in a severe conflict, leapt from the military domain to civilian domains. While each nation would have a strong aversion to "general" cyberwar and so might be mutually deterred from attacking the other's nonmilitary computer networks, the ability to contain cyberwar, once begun, is unknown—if not unknowable.[19] Certain network infrastructure supports multiple computer systems, and certain computer systems that support military operations are also used for commercial or other civilian purposes. As an example, the supply of U.S. forces in a major armed conflict might depend on logistics firms, which rely mainly on open data systems, perhaps Internet-based, to manage and move material. Would China refrain from trying to degrade such systems in the event of war? Would the United States refrain from attacking, say, systems that support the transport of Chinese troops? Would both countries not be tempted to crash telecommunications or air-traffic control or energy-distribution systems that support fighting, or interfere with government-service networks? In short, the "firebreak" separating military-operational cyberwar from national-economic cyber could prove weak; once crossed, cyberwar could spin out of control, affecting all sorts of critical information infrastructure, the Internet, and commercial systems.

Very roughly speaking, China and the United States are equally vulnerable to the harm such civilian cyberwar could cause, because both economies and societies rely heavily on computer networks. Estimates of the economic damage from a series of large-scale cyberattacks on the United States range from $70 billion to $900 billion.[20] With at least 200 million more Internet users than the United States, China might have just as much to lose from targeting civilian cyber infrastructure as does the United States. China's economy has become very integrated internally and with the rest of the world, and that integration is enabled by potentially vulnerable data networking. Disrup-

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[19] For analysis of the potential and possible paths of cyberwar escalation, see Lawrence Cavaiola, David Gompert, and Martin Libicki, "Cyber House Rules: On War, Retaliation and Escalation," *Survival: Global Politics and Strategy*, Vol. 57, No. 1, February–March 2015.

[20] Scott Borg, "How Cyber Attacks Will Be Used in International Conflict," paper presented at the USENIX Security Technology Symposium, Washington, D.C., 2010.

tion of both internal and external commerce resulting from cyberattacks could aggravate China's economic costs of war. Both countries are capable of patching, working around, and otherwise containing the effects of cyber attacks; however, the cumulative effects of multiple shocks in different sectors could cause appreciable reductions in production, commerce, and consumption. While we offer no estimate of the possible costs of escalating cyberwar, it is evident that they could be very large *on both sides* in the event of a severe and protracted Sino-U.S. conflict.

In sum, the economic harm caused by a Sino-U.S. war, unless brief or mild, would be substantially greater to China than to the United States, an asymmetry likely to persist if not grow by 2025. Unlike the military balance, there is little China can do, given its need for global markets and resources, to mitigate the economic risks of a war with the United States.[21] The economic integration that has made China's development possible exposes China to the risk that war could bring that development to a screeching halt. While this should darken any encouragement that China's military might feel or convey about a brightening military picture, it does not mean that the Chinese would be unwilling or unable to bear such a price. Losing great powers have endured much worse.

[21] Because China is currently a large net importer of food, the question arises whether its population is vulnerable to hunger in the event a war severely constricts seaborne trade. In fact, China keeps large grain reserves in the event of catastrophic events, such as crop failures or, in this case, war. In addition, in normal years, China remains domestically self-sufficient in rice and wheat, the most important staples in the Chinese diet. As a result, according to the World Bank, China's food self-sufficiency will remain above 90 percent through and beyond 2030. China could easily reduce consumption of meat and other agricultural products that depend on imported feeds and still provide sufficient food for all its citizens in the event of a conflict. See World Bank, *China Economic Update: Special Topic—Changing Food Consumption Patterns in China; Implications for Domestic Supply and International Trade*, Beijing, June 2014a, p. 26.

Political Effects

Domestic political responses effects of war would differ considerably between China and the United States because their political conditions are so different. We assume that those conditions would basically be the same in 2025 as in 2015. The nature, scale, and timing of political effects are, if anything, even harder to predict than military losses and economic costs. Whether those effects described below would occur during or after a conflict of one year (the period posited for a long war) is unknowable, but it is nonetheless worth considering.

China is a single-party authoritarian state with, at present, a powerful chief executive.[22] That leader is working to strengthen civilian control over the military.[23] Divisions among top civilian officials or between them and military chiefs or economic elites are slight or well masked. Public opinion, though an important source of pressure and potential cradle of dissent, is not critical to the regime's survival: The middle class is mainly patriotic in sentiment, the rural poor are voiceless, migrant factory workers are formless, and dissidents are a small minority and more concerned with political or religious freedom than foreign policy. Debate and protest are at the sufferance of the state. Access to information can be controlled, up to a point, given widespread Internet access. The state and its internal security apparatus have ample means to suppress opposition and the will to use those means. However, Beijing's commitment to domestic order reflects its fear of the sort of instability that China has experienced in the past and that could again engulf the country, threaten the regime, and leave China weak and vulnerable.

U.S. domestic politics are nearly the inverse of China's. At present, U.S. politics are polarized and the government is divided. Virtually any issue, even war and peace, can bring on criticism, partisan squab-

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[22] See Elizabeth C. Economy, "China's Imperial President: Xi Jinping Tightens His Grip," *Foreign Affairs*, November–December 2014.

[23] There have been grounds for doubt that recent Chinese civilian leaders have as much control over the PLA as earlier leaders. However, Xi Jinping has taken steps to regain such control, without indications of PLA resistance.

bling, and partial paralysis.[24] The ability of the president to be an effective commander-in-chief could be impaired by politicization; opposition could come from peace factions, war factions, or both. Unless the country's security is directly threatened, the wholehearted support of the general public and the elite cannot be assumed, especially after costly wars with disappointing results in Iraq and Afghanistan. U.S. administrations persist in unpopular wars at their own peril. Neither patience nor continuity can be assumed, especially with elections every two years. At the same time, there is no doubt about the state's survival in the event of a war with huge losses and costs, as there might be in China's case.

Political responses, constraints, and consequences in the two countries could be strongly influenced by perceptions of the stakes of war. Matters concerning Chinese territorial claims, historical injustices, and sovereign rights would have strong purchase among Chinese elites and the public. Yet many Americans could regard such matters as peripheral to U.S. vital interests and not worth a costly war, unless unified leadership could convince them otherwise. As fighting lasts, these original interests could be altered by how the war is going in terms of casualties, economic impact, attacks on civilians, and popular anger or revulsion, making internal politics volatile and unpredictable.

The U.S. government could experience acute "tactical" political problems (e.g., partisan and popular polarization) throughout a conflict, whereas the Chinese government would have few such problems and the muscle to manage them. But China could face "strategic" political problems that the regime would have to confront in the event of a long and severe conflict. China's "rally round the flag" impulse could be stronger at first but then give way to instabilities that the United States does not face.

The president of the United States could be criticized from the outset for involving the country in a war over less-than-vital interests. Such criticism could be intensified by significant losses, especially

[24] As this is being written, the polarization along partisan lines that has dogged U.S. attempts to negotiate a nuclear-enrichment deal with Iran suggests erosion of the principle that politics end at the water's edge.

casualties, in severe fighting. On the other hand, the president could be criticized for timidity if he or she held back the U.S. military to limit hostilities and losses. Although civilian control of the military would not be in doubt, strains could appear over presidential micromanagement, driven by concern with costs. While it is possible that mounting casualties could rally public support, especially if injected with anti-Chinese sentiment, it is also possible that opposition to war would grow. Depending on the stakes and reactions to losses, a long and severe war could divide the United States and aggravate problems of uncompromising partisanship and dysfunctional government.

While U.S. military advantages have until now offered the chance to win a war swiftly and so avoid such political pressures and pitfalls, this might be less likely in the future. The commander-in-chief could be in a vise between war-winning military logic and cost-containing political-economic logic. Whether its internal politics would permit the United States to fight a long, costly, and possibly inconclusive war with China would depend in part on the war's origin and the U.S. stake in its outcome. History suggests—and China should not overlook—that the United States is capable of considerable political stamina during war.

Political support, state control, and stability in both countries could also be subject to the effects of cyberwar, were it to escalate into civilian domains. Here, too, China could be more vulnerable insofar as the Chinese government relies more on influencing popular sentiment through media, the Internet, and other communications channels than does, or can, the U.S. government. If Beijing's ability to manipulate information, maintain support, and avert disorder is degraded, spontaneous and opposing opinions could roil segments of the population.

Expectations of how U.S. domestic politics would affect and be affected by war, depending on intensity and duration, are summarized in Table 3.4.

Strains on China's political system and cohesion would probably be manageable in the event of mild hostilities. Social networking could empower opposition to some extent, though the regime's ability to restrict and manipulate information and to contain dissent should prevail. A choice by the regime to limit hostilities to avoid major losses, attacks on China, and escalation could produce military grumbling

Table 3.4
Potential Effects on U.S. Domestic Politics in the Four Cases

	Brief	Long
Mild	Pressure from opponents of war could cause tight control over fighting (assuming China is also in that mode). But a brief and restricted conflict with an ambiguous outcome could lead to strong criticism from pro-war quarters.	Pro-war opponents could claim that politicians are tying the military's hands.
Severe	Pro-peace opposition could be too weak to prevent strong U.S. military action. However, pro-war support could constrain the U.S. ability to agree to terms for early cessation.	Mounting losses and economic damage could divide the country, impair prosecution of war, and make continuity of effort hostage to political change (e.g., elections).

but not outright defiance. Assuming that Chinese leaders and elites feel strongly about the conflict's stakes (e.g., matters of national sovereignty and honor), any opposition among the populace would not compel the regime to cease fighting.

However, severe hostilities, if prolonged, could generate domestic political turbulence and centrifugal forces. The danger of unrest derives from the dependence of the regime's legitimacy on economic well-being and patriotic pride; to the extent both are fractured by war losses and costs, segments of the society (e.g., elites, middle class, workers, and peasants) could sour on the leadership. Not just capital but also capitalists might flee the country. While domestic turmoil might not imperil the regime, it could force it to crack down on large swaths of an angry public, further undermining its legitimacy. The danger of separatism lies in the opportunity separatists in Tibet or Xinjiang might see if the state were preoccupied with a damaging and demanding war with the United States. Because significant PLA ground forces and other internal-security forces would presumably remain available even in the event of a major conflict with the United States, the regime would be able to crush separatists, but at a cost of resources and of domestic and international legitimacy at a time when both could be in short supply.

Expectations of how Chinese domestic politics would affect and be affected by war, depending on intensity and duration, are summarized in Table 3.5.

Juxtaposing possible U.S. and Chinese political effects, it seems that Chinese leaders would face little internal opposition in a brief conflict, regardless of its intensity, whereas U.S. leaders could face vehement opposition, partisanship, and polarization from the outset.[25] Moreover, Chinese leaders are able and willing to suppress domestic opposition. While patriotic support can be expected in both cases, it could be more fervent in China, especially if most Chinese feel more strongly than most Americans do about the national interests at stake in the conflict. However, in the event of a prolonged and costly conflict, China could

Table 3.5
Potential Effects on Chinese Domestic Politics in the Four Cases

	Brief	Long
Mild	Little elite or public opposition would arise. Separatists might see greater opportunity, but the regime's security apparatus could neutralize.	Elite, public, and perhaps military impatience could grow but not threaten the regime. Separatists might exploit conditions but not to the point of actually separating. The regime could increase oppression and lose some legitimacy, but not be in danger.
Severe	Elite and public support can be expected. However, Chinese heavy losses, poor prospects, and domestic turmoil might increase pressure to end the conflict, even on unfavorable terms, before instability flares. By 2025, the country might be unified in supporting war.	Mounting military losses and economic damage could weaken state legitimacy and increase dissent and unrest. Separatist activities could intensify and lead to greater repression. Internal strains could tax the state's resources and legitimacy at a time of costly war.

[25] Whether domestic political opposition impairs a U.S. administration's ability to wage war is mainly a function of the degree of congressional-executive disharmony, which might reflect public disharmony or opposition. It was not until well after a majority of Americans soured on the Vietnam War that Congress began implementing serious roadblocks against the U.S. war effort. The U.S. effort in Iraq, toward which the public became disenthralled, continued without effective congressional opposition. Having said this, a U.S. administration might be self-restrained if a war encounters major public opposition and exacts a major political cost.

face more-serious domestic upheaval than the United States would, which could motivate Beijing to seek peace.

International Effects

International effects of Sino-U.S. war can be thought of as concentric circles: general world opinion is outermost and least consequential; in the next circle, responses of major nonregional actors, including allies of either side; in the center and most important, East Asian states. Irrespective of their positions on the causes, merits, and favored side in a conflict, countries, institutions, and enterprises worldwide, fearful of economic harm, would appeal for an immediate end to Sino-U.S. combat. But such views are unlikely to sway either belligerent.

Of more significance than world opinion would be reactions of other powers, notably Russia, India, and European (NATO) states. India and Russia, China's most powerful land neighbors, are likely to be sympathetic to the United States and China, respectively. Although India would want to refrain from direct military intervention, it might increase readiness of its force along the frontier, especially if it felt its vital interests could be affected. This could cause China to do likewise with PLA ground forces (which would in any case not be heavily used against U.S. forces).

Russia is more of a wild card. While it lacks capabilities to conduct effective military operations in the Western Pacific, it could exploit U.S. preoccupation in the Pacific to increase threats to former Soviet states in Eastern Europe (e.g., Ukraine) and the Caucasus (e.g., Georgia), and even try to intimidate its Baltic neighbors despite their NATO membership. Another possibility—less likely but with very different significance—is that Russia could seize the opportunity of a Sino-U.S. war to strengthen its position in central Asia and Siberia at China's expense. Geopolitics aside, Russia would be eager to help China make up for lost oil and gas supplies, though not for free. In addition, Russian arms could make up somewhat for Chinese military losses and expenditures (e.g., aircraft and air defense), though it would take time for them to be operationalized, and most would fare badly against U.S.

forces. Overall, though, Russia's economic weakness, military limitations, and dangers on or within its own frontiers reduce the importance of its support for China and the likelihood or significance of its intervention.

Assuming that its European allies see the United States as justified, they would likely back it politically, while urging that the conflict, end lest it escalate or ruin the world economy. Short of direct combat involvement, NATO itself might pledge support for U.S. efforts to oppose Chinese aggression. One of the most important European contributions would be to preempt or respond to any increased Russian pressure on Eastern Europe. In the course of a lengthy conflict, Europe might be willing to join in an embargo of export to China of any goods, technologies, and services that could aid its war effort.

As for other Chinese "allies," North Korea is even more unpredictable than Russia. Although North Korea no longer has the conventional military capability to invade and defeat South Korea, it could use missiles against South Korea or Japan; although Seoul would almost certainly not enter a war against China in any case, Tokyo's options would be complicated by North Korean belligerence.

A conflict between China and the United States could disturb the greater Middle East by providing an opening for heightened violence from Islamist-extremist and anti-Israel groups (ISIS, al Qaeda, Hamas, and Hezbollah). Middle East difficulties could place additional demands on U.S. naval and air forces at a moment when more of them are needed in the Western Pacific. Conversely, a shift of significant U.S. forces from U.S. Central Command to U.S. Pacific Command could add to the potential for instability in the Middle East. Increased violence, extremism, and instability in the Middle East could also be damaging to China, which gets much of its oil from there (though most oil would not ship through the war zone anyway).

East Asian states would have the most to lose from a Sino-U.S. war: Much of the region could be a war zone; its trade-intensive economy could go into depression; China might emerge either dominant or unstable; the region's extraordinary gains in security and prosperity could be threatened. Most East Asian states would want to see war end swiftly in military victory for the United States, but with China intact.

Most of China's neighbors have edged toward closer security relations with the United States. This drift could be accentuated in a conflict perceived to result from Chinese bellicosity.

The most critical state is Japan, with its growing military strength, its antagonistic relationship with China, and the strong possibility that China would attack U.S. air bases on Japanese territory. Recent reinterpretation of Japan's constitution, at the initiative of the Abe government, effectively legalizes military support for the United States in a war with China.[26] Of course, the probability of significant Japanese involvement in the war would be greater if Japan was involved in the issue or confrontation that triggered conflict (e.g., in the East China Sea). Japanese military participation would be virtually assured if China were to attack Japan, including U.S. bases in Japan, or Japanese forces. While China has the option of not attacking U.S. bases on Japanese territory, such a decision would involve major operational drawbacks.

As for capabilities, Japanese submarines, surface combatants, combat aircraft, strike weapons, and ISR could make a material difference in a severe war by 2025. The longer a Sino-U.S. conflict lasted, the greater the potential effect of Japanese military contributions on the U.S. side. In a long, severe war, China would find it difficult to contend with combined U.S. and Japanese forces, as the latter made up for the former's attrition. Moreover, Japanese involvement would reduce the need for the United States to strip its forces from elsewhere for reinforcement.

Overall, Japanese combat involvement could increase Chinese losses and offset or even reduce U.S. losses in a long, severe conflict. Because Japan's forces are being steadily improved, its entry could widen the gap between U.S. and Chinese losses in 2025 that was depicted above. This possibility reinforces the observation already made that even with improved Chinese A2AD and reduced U.S. military superi-

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[26] This assumes adequate domestic political support for Japanese intervention. Notwithstanding the reinterpretation of the constitution, polls suggest that a majority of Japanese continue to oppose involvement in wars other than in self-defense. See, e.g., Kamiya Matake, "Japanese Public Opinions About the Exercise of the Right of Collective Self-Defense," *Discuss Japan*, September 25, 2014.

ority, China cannot be confident of winning a long, severe war. At the same time, Japanese intervention would enrage the Chinese and could enflame, extend, or expand the conflict. It might cause China to fight longer and endure greater costs than it would otherwise. China might widen attacks on Japan, though at the price of diverting forces already under heavy attack and stress.

Depending on the cause and locus of the conflict, other East Asian states would mostly side with the United States in varying degrees: from support ranging from permission to use bases to the possible commitment of forces (e.g., Australia, New Zealand, the Philippines), to cautious support for the United States among countries with strong ties to China (notably, South Korea) or significant Chinese populations (e.g., Singapore, Malaysia, Indonesia, Thailand), to support for China (only North Korea). The participation of Australian forces, because of their quality, could have military significance despite their small size. Apart from military contributions, the longer and more severe the conflict, the more and perhaps more permanently China could become isolated from the very region it aspires to lead. This, in turn, could strengthen pro-peace voices in Beijing (e.g., in the Ministry of Foreign Affairs).[27]

Prognostications about the reaction of third parties are fraught with uncertainty even now, let alone ten years from now. Much would depend on the cause of war: For example, a Chinese move to gain control of the East or South China Seas flagrant enough to force U.S. armed intervention would be more likely to produce a significant anti-China international response than would a conflict over Taiwan, especially if it appeared that the Chinese were provoked. It is conceivable that many U.S. friends, near and far, would lay low or that Russia or North Korea would act in ways that added to U.S. military risks and burdens. Yet another possibility, touched on in the earlier discussion of "upper limits" of war, is that many states would be dragged in or enter

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[27] In terms of sheer mass, the combined GDP (approximately $10 trillion) of Asian states that would favor the United States is roughly equivalent to China's, and the combined defense spending of those states (approximately $150 billion) is nearly as great as China's (Stockholm International Peace Research Institute, *SIPRI Yearbook 2014: Armaments, Disarmament and International Security*, Oxford, UK: Oxford University Press, 2014).

opportunistically, leading to a quasi–world war. However, we think the more likely international reaction would be for regional states with direct and critical interests, such as Japan, to get involved, mainly to the disadvantage of China.

In sum, world public opinion would favor the immediate cessation of fighting. Russia might growl, posture, and exploit a Sino-U.S. conflict by taking initiatives elsewhere, whether or not in sync with China. Some East Asian states, in varying degrees, would line up behind the United States. Japan's involvement could make a long, severe conflict more costly for China but could also increase the dangers of escalation.

These international effects would be amplified, to the advantage of the United States, the longer a severe war persisted. Possible international responses are summarized in Table 3.6.

The Four Cases and Their Effects

Each category of effects is important in its own right and in its implications for other effects:

- Military losses can affect the ability, especially of China, to keep trade going, prevent destruction of infrastructure, and maintain access to energy supplies.

Table 3.6
Possible International Responses in the Four Cases

	Brief	Long
Mild	Regional and global pressure on both sides to end conflict.	NATO support would enable the United States to concentrate more forces in the Western Pacific.
Severe	International shock and pressure on both sides to end conflict. Warnings and military preparations by Japan and other East Asian states. Russia provides indirect support for China, as NATO does for United States.	Japanese and other East Asian entry in support of the United States. India could exploit the frontier to the disadvantage of China. NATO could limit exploitation by Russia.

- New domains of warfare—cyberspace and space—can have both a military and economic effect, given that dual-use systems (e.g., communications, logistics networks, GPS) could be disabled.
- Cyberwar, if not confined to military networks, could hinder political responses to war, affect third parties, and compound economic disruptions.
- Economic costs, whether from hostilities or from disruption of commerce, would affect the ability of combatants to make up for military losses in a severe and protracted conflict.
- Economic hardship, such as reduced consumption of and access to essentials, could affect political support, stability, and cohesion, and thus the ability and resolve of each side to continue fighting at a high intensity.
- Adverse world public opinion directed at one or both parties would make little difference in their ability and will to fight, at least in the short term. However, the reactions of important third parties could eventually help one side or the other in major ways: direct combat, war supplies, trade, energy access, and, in the case of the United States, support in other theaters that enables concentration of forces.

Table 3.7 *integrates* the four categories of effects on both states in the four conflict cases. (The "Military" column includes 2015 and 2025 cases to reflect the effects of improvements in Chinese A2AD.) The "General" column and row summarize the four cases and the four sorts of effects, respectively, providing a very rough sense of the impact on and relative advantage of the sides.

Overall, the decline in U.S. warfighting advantages does not mean China can win a war that the United States is willing to fight. By 2025, a war could be a military standoff, with major weapon-platform losses on both sides, in addition to losses in cyberspace and space. Yet neither side would fare so much worse than the other that it would feel compelled to concede, raising the probability that a war would be both severe and long. Such a war could be decided by economic costs, domestic political effects, and international responses. Japan's

Table 3.7
Possible Effects on the United States and China in the Four Cases and Overall

	Military	Economic	Political	International	General
Brief, mild	Minor losses on both sides.	**China**: Broad but brief disruption of trade, consumption, and energy. **United States**: Brief disruption of trade with China.	**China**: Little elite or public opposition. The PLA favors intensified attacks but does not openly challenge the regime. Separatists see greater opportunity, but the regime and its internal security apparatus neutralize it. **United States**: Pressure from both sides: doves demanding cessation, and hawks demanding stepped-up strikes.	Regional and global pressure on both sides to end conflict.	Brief but serious economic disruption, asymmetrically harming China.
Brief, severe	**2015** **China**: U.S. counterforce capabilities take a major toll early and throughout. **United States**: Chinese A2AD takes a major early toll but then less as degraded by U.S. strikes. **2025** **China**: Increased U.S. losses reduce strike threat to Chinese forces. **United States**: Improved and less vulnerable Chinese A2AD produces increased U.S. losses.	**China**: Shock to global trade, with aftershocks to consumption, energy supply. Difficult recovery. **United States**: Brief economic disruption, confined to trade with and investment in China. Quick recovery.	**China**: Elite and public supportive. The PLA is satisfied. Early support is stronger in 2025 with better military results. **United States**: Doves too weak to prevent strong U.S. military action. Hawks constrain U.S. ability to agree to terms for early cessation.	Regional and global shock. Pressure on both sides to end conflict. Warnings and military preparations by Japan and other East Asian states. Russia voices support for China and NATO for the United States.	Major military losses and economic costs for both, but asymmetrically harming China. Gap in expected losses less unfavorable to China in 2025 than in 2015.

Table 3.7—Continued

	Military	Economic	Political	International	General
Long, mild	Modest losses of aircraft or ships on both sides.	**China**: Serious compounding damage to trade, consumption, and energy supply. Slow and difficult recovery. **United States**: Significant economic harm from disrupted trade with and investment in China. Slow recovery.	**China**: Elite, public, and PLA impatience grow but do not threaten the regime. Separatists try to exploit conditions. The regime becomes more oppressive and less legitimate, but not in danger. **United States**: Hawks claim that politicians are tying the military's hands.	NATO support elsewhere enables the United States to concentrate more forces in Western Pacific.	Economic costs more harmful to China. Domestic dissatisfaction grows in both states. International responses favor the United States.
Long, severe	**2015** **China**: U.S. strike capabilities, though somewhat degraded by A2AD, take a major toll on Chinese forces. Extensive damage to war-related infrastructure. Computer and satellite degradation. **United States**: Chinese A2AD takes a major toll on U.S. forces early but less as degraded by U.S. strikes. **2025** **China**: Improved A2AD reduces losses somewhat, though still greater than U.S. losses. Increased cyber and satellite losses. **United States**: Improved and less vulnerable Chinese A2AD produces increased U.S. losses early and throughout. Increased cyber and satellite losses.	U.S. GDP falls by 5–10 percent in one year. China's GDP falls by 25–35 percent in one year. Escalating cyberwar aggravates turmoil in both economies.	**China**: Mounting military losses and economic damage weaken state legitimacy and increase dissent and unrest. Separatist activities intensify and lead to greater repression. While internal strains do not imperil the state, they tax it severely at a time of costly war. **United States**: Mounting losses and economic costs divide the country, impair prosecution of war, and make continuity of effort hostage to political change.	Japanese and other East Asian countries enter in support of the United States. China is concerned that India could exploit the situation on the frontier. NATO limits Russia exploitation.	Major losses. Reduction in the military capabilities of both sides. Asymmetrically severe economic costs (including cyber and space), for China. Possible Chinese domestic instability. International response favors the United States.

Table 3.7—Continued

	Military	Economic	Political	International	General
General	As U.S. military advantages decline by 2025, U.S. losses increase, Chinese losses decrease, and the prospect of outright U.S. military victory declines. Growing cyber and satellite losses on both sides.	China is far more vulnerable than the United States to broad, deep, and lasting economic harm.	China is better equipped than the United States to contain the political effects of a short war, but China faces challenges in a long one.	U.S. East Asian allies provide significant support in a persisting conflict. Japan's entry has a significant military effect by 2025. NATO allies and India are be indirectly helpful to the United States, as Russia is to China.	

entry could offset the decline of U.S. military superiority, especially in a prolonged conflict. All these factors, taken together, would strongly favor the United States.

Recall the earlier observation that war between China and the United States could be worse than the long, severe case, as described here. In the 20th century, two great-power wars became world wars, and a third could have followed the same course, or even worse. The possibility of a Sino-U.S. war drawing in other powers and many states cannot be excluded: In addition to Japan, perhaps India, Vietnam, and NATO would be on the U.S. side; Russia and North Korea would be on China's side. Fighting could spread beyond the region. War aims could expand, and as they did, so would the costs of losing. Even if nuclear weapons were not used, China might find other ways to attack the United States proper. Use of space and cyberspace could be severely curtailed. As long as fighting remained inclusive, destruction and hardship could fuel determination and further mobilization. In sum, both the duration and severity of war could exceed the upper case used here for purposes of analysis. If so, losses and costs would be even greater for both sides and the world, and the outcome would be no more favorable for China, despite the expansion of its power.

CHAPTER FOUR

Findings, Recommendations, and Concluding Observations

Findings

Unless both U.S. and Chinese political leaders decline to authorize their militaries to carry out their counterforce strategies, the ability of either state to control the ensuing conflict would be greatly impaired. Both would suffer large military losses from the outset and throughout a severe conflict: In 2015, U.S. losses could be a relatively small fraction of forces committed, but still significant; Chinese losses could be much heavier than U.S. losses and a substantial fraction of forces committed. This gap in losses will shrink as Chinese A2AD improves: By 2025, U.S. losses could range from significant to heavy; Chinese losses, while still very heavy, could be somewhat less than in 2015, owing to increased degradation of U.S. strike capabilities. A severe and lengthy conflict would leave both with substantially reduced total military capacity and thus vulnerable to other threats.

China's A2AD will make it increasingly difficult for the United States to gain military-operational dominance and victory, even in a long war. However, provided the United States is nonetheless willing to fight, China cannot expect to win militarily. Thus, the two could face the prospect of an extremely costly military standoff.

This outcome implies that a conflict could be decided by domestic political, international, and, especially, economic factors, all of which would favor the United States in a long, severe war:

- Although a war would harm both economies, damage to China's would be far worse (perhaps 25–35 percent of GDP after

one year). Because much of the Western Pacific would become a war zone, China's trade with the region and the rest of the world would decline substantially. China's loss of seaborne energy supplies would be especially damaging. Although consumption is a smaller share of the Chinese economy than the U.S. economy, it is expected to grow, leaving the Chinese economy vulnerable to further contraction in the event of war.

- Politically, a long conflict, especially if militarily severe and economically punishing, could expose China to internal division—taxing and testing the state.
- The entry of Japan and, to a lesser extent, other U.S. partners in the region could have a considerable influence on military operations. The responses of Russia, India, and NATO are less important. However, NATO efforts to preserve security in other regions (at least Europe, if not also the Middle East) would permit greater, or less risky, commitment of U.S. forces to war with China. Such a combination of international responses could increase Chinese losses in a long, severe conflict, despite improved A2AD.

In a nutshell, despite military trends that favor it, China could not win, and might lose, a severe war with the United States in 2025, especially if prolonged. Moreover, the economic costs and political dangers of such a war could imperil China's stability, end its development, and undermine the legitimacy of the state.

Yet in the event of war, the military capabilities, motivations, and plans of both sides make a severe, prolonged, and exceedingly costly conflict a distinct possibility. Of the many reasons the United States should not want such a war, the most important are the immense military losses and economic costs to itself and the implications, for the country, the region, and the world, of devastating harm to China. Such prospects underscore the importance of both the United States and China contemplating how to control and restrict fighting should a crisis turn violent, which shines the spotlight on principles and procedures for political control and communication.

Recommendations

The findings confirm what is widely thought: A Sino-U.S. war would be so harmful that both sides should place a very high priority on avoiding one. While such prospects make premeditated war highly improbable, they also dictate effective individual and bilateral crisis management, as well as other measures to avoid misperceptions and mistakes.

Because the United States might be unable to control, win, or avoid major losses and costs of a severe conflict, it must guard against automaticity in implementing immediate attacks on Chinese A2AD and should have plans and means to prevent hostilities from becoming severe. Establishing "fail safe" arrangements will guarantee definitive, informed political approval for military operations.

Likewise, China has much to lose from a severe conflict, and even more from a prolonged, severe one. Notwithstanding favorable military trends, China has as much reason as the United States to avoid automatic execution of military plans for a sharp and immediate counterforce exchange, including a parallel requirement for unambiguous political control. Again, if *either* state executes its military plans to strike the forces of the other, a severe war would likely ensue.

Thus, it is necessary but not sufficient for the United States to be able to refrain from full execution of military plans once fighting begins, for it could not hesitate to strike hard if China does or is about to do so. Given the extreme penalty for allowing one's forces to be struck before they strike, creating mutual forbearance at the outset of hostilities could be as difficult as it is critical. It requires an ability to cooperate at a moment of intense pressure to attack, which in turn makes clear, direct, and prompt political communication as important after as it is before hostilities begin. *Together with ensuring that U.S. and Chinese political leaders alike have military options other than immediate strikes to destroy opposing forces, having the means to confer and contain a conflict before it gets out of hand is the most important recommendation coming out of this analysis.*

Along with measures to prevent crises from becoming violent and violence from becoming severe, the United States should try to reduce the effect of Chinese A2AD in the coming years. Work at RAND and

elsewhere increasingly stresses the need to invest in more-survivable force platforms (e.g., submarines) and in counter-A2AD (e.g., theater missiles). Such efforts would buttress deterrence, help prevent increased China's confidence of prevailing in a severe conflict, and improve stability in crises, as well as in the critical initial stage of a conflict. But the efforts would not dramatically reduce U.S. military losses or economic costs of a severe conflict.

Even as China's military capabilities improve, it would suffer huge losses in a long, severe conflict. Moreover, the economic, domestic, and international effects of a long, severe conflict work against China. The United States needs to be sure that the Chinese are specifically aware of the potential for catastrophic results even if a war is not lost militarily.

While not losing sight of the grave harm to the United States of a lengthy and severe conflict, prudent U.S. preparations for one would help disabuse the Chinese of expecting victory at acceptable cost. However, a heavy dose of common sense is needed in contemplating such preparations. As stressed from the outset of this study, war with China is improbable, in part because both sides know that the costs would outweigh the gains, even for the winner—if indeed there is one. Moreover, the costs of being completely prepared are prohibitive—undoubtedly greater than the costs of war when discounted by the low probability of one.

With this in mind, U.S. preparations fall into several categories:

- Improving the ability to sustain severely intense military operations: The Department of Defense should analyze critical "consumables" (weapons and provisions) that could run out and tip the balance in the event a protracted war.
- Shifting toward more-survivable platforms: The Pentagon should not increase stocks of vulnerable platforms (surface ships and manned aircraft) that are expected to take significant losses, because of China's A2AD. Rather, the Pentagon should undertake a purposeful long-term program to substitute more-survivable systems, at least for this region.
- Improving U.S. and allied warfighting capabilities: In addition to improve survivability, U.S. and allied forces should exploit

more strategically the technologies that China is exploiting in its A2AD, including targeting, theater-range missiles, advanced extend-range air defense, and submarines.

- Conducting contingency planning with key allies: Japan is the most important but also the most controversial ally; however, existing low-profile U.S.-Japanese military planning is an established framework (well known to the Chinese) that could begin to touch on issues regarding low-probability and high-consequence conflict with China. Similar planning with other East Asia allies is encouraged. NATO planning should be stretched in the direction of how European allies would respond to a Russian threat if the United States were in a major war with China. Again, this is a delicate matter and best done with no fanfare.
- Undertaking measures to mitigate the interruption of critical products from China: Here again, sound judgment must prevail. For the United States to slash Chinese imports in the off chance of a war would be to harm its own economy in anticipation of an unlikely event, which, though economically painful, would not be catastrophic. It would suffice for the United States government to identify alternative domestic and foreign sources of only the most critical products and parts made in China. This could include stockpiling especially vital materials.
- Developing options to deny China access to war-critical commodities and technologies in the event of war: Although a general U.S. blockade would not be needed to harm the Chinese economy, the United States could take measures that would make it difficult for China to sustain long and severe combat. Cutting off Chinese access to seaborne supplies of oil and liquefied natural gas would have the most dramatic effect. Although Russia would probably be eager and able to supply China with military hardware during a war, Chinese access to more-sophisticated Western systems could be stopped.

Such U.S. measures could reinforce Chinese perceptions that the United States is determined to encircle and isolate China, as well as create perceptions that the United States would seek to devastate China

and destroy its state in the event of war. The distinction worth making is that the United States does not seek to isolate China unless war requires it to do so. The risk of harm to Sino-U.S. relations can be mitigated, though to only some extent, by patient and persistent efforts by the United States to engage Chinese political and military counterparts in discussion of cooperation and crisis management.

The U.S. Army, as a Title X service and in its joint responsibilities, has important roles to play in many aspects of such preparations. It should do the following:

- Invest in land-based A2AD capabilities (e.g., mobile theater-range missiles and advanced air defenses) to contribute to high Chinese military losses.
- Encourage and enable East Asian partners to mount strong defense, including missiles and air defense.
- Improve interoperability with partners, especially Japan.
- Contribute to the expansion and deepening of Sino-U.S. military-to-military understanding and cooperation to reduce dangers of misperception and miscalculation.

Because a Sino-U.S. war, in the construct used here, would not include a major ground combat, the U.S. Army's expected losses would be proportionately less than those of the Navy and Air Force. Therefore, this analysis does not change current planning factors concerning overall end-strength or mobilization requirements—albeit with important investments in technology and platforms and shifts in force structure to enhance long-range fires and air defense, as noted. However, a major conflict on the Korean peninsula would alter this presumption.

Concluding Observations

As China's military improvements neutralize the military advantages of the United States, and because technology favors conventional counterforce, war between the two countries could be intense, last a year or more, have no winner, and inflict huge losses and costs on both

sides. The longer such a war continued, the more significant economic, domestic political, and international effects would become. While such nonmilitary effects would hit China hardest, they could also greatly harm the U.S. economy and the U.S. ability to meet security challenges worldwide. The United States should make prudent preparations to be able to wage a long and intense war with China. Of no less importance is the ability of the United States to limit the scope, intensity, and duration of a war with China through its planning, its system of civilian control, and its ability to communicate with China in peace, crisis, and war.

Likewise for China, political control and good wartime top-level communications are imperative. True, Chinese military improvements have lessened the danger of losing decisively to the United States. Yet China cannot count on a short war, and a long one could leave China weak, unstable, insecure, and impoverished.

To paraphrase Frederick the Great, evenly matched well-armed powers considering war will want to weigh whether possible gains would even "pay the interest" on probable costs. As the United States and China become more equal in their ability to destroy each other's forces, neither can be confident of winning at an acceptable price. Should a confrontation or incident nonetheless lead to hostilities, it would be better if both sides had thought through how to limit the harm, not just how to win.

APPENDIX A

Military Losses

Mild Case

Brief, Mild

- The conflict trigger event results in immediate losses for both sides.
- China suffers slightly more losses as a result of its lower levels of modern combat experience and less capable systems and platforms.

Long, Mild

- Protracted hostilities result in additional but relatively infrequent losses over the length of the conflict.
- China suffers slightly more losses because of less modern combat experience and less capable systems and platforms.

Severe Case, 2015

Table A.1 displays the expected military losses in the severe case for 2015.

Table A.1
Military Losses in the Severe Case, 2015

System Type	U.S. T_1	U.S. T_2	China T_1	China T_2
Aircraft				
Surface ships				
Submarines				
Missiles				
C4ISR				

NOTES: Green signifies modest losses; yellow, significant losses; orange, heavy losses; and red, very heavy losses. A mix of two colors in one cell indicates a range (e.g., green/yellow means we expect there would be modest to significant losses). T_1 = a hypothetical moment, within days of the start of the conflict, when the sides decide whether to continue fighting; T_2 = one year.

Aircraft

U.S. Losses

- No specific judgment is made here about whether China would damage or sink a U.S. aircraft carrier with an accompanying air wing.
- The United States would likely lose substantial forces initially in the region because of Chinese missile forces more so than Chinese aircraft. China has relatively few modern aircraft, and the newest generation would not yet be deployed.
- U.S. regional air bases would also come under attack, but China has limited aerial refueling to sustain operations against regional bases.
- The United States would have the edge in air-to-air combat.
- U.S. aircraft carriers would be vulnerable to Chinese submarines.

China's Losses

- Once China's most modern aircraft are incapacitated, China would be heavily dependent on outdated and aging airframes that have limited data relay capabilities. This means that Chinese

aircraft would become increasingly vulnerable to U.S. aircraft during a conflict.
- However, China has a lot of places to hide aircraft, such as inland bases and tunnel facilities, and might choose to do so rather than have them shot down.
- China also has no modern experience sustaining air operations over long periods of time and has limited aerial refueling capabilities, which would affect sortie rates.

Surface Ships

U.S. Losses

- No specific judgment is made here about whether China would damage or sink a U.S. aircraft carrier with an accompanying air wing.
- The United States is likely to lose substantial forces initially in the region because of missile forces and, possibly, swarming techniques by PLA Navy (PLAN) and nonmilitary ships.
- Regional naval bases would also be under attack.
- U.S. ships could hide out far from the conflict in the deep Pacific.

China's Losses

- Chinese ships would be vulnerable to attack by U.S. submarines, particularly given Chinese weakness in ASW, as well as U.S. surface ships, planes, and so on.
- Chinese naval bases would be vulnerable as well, given that all are relatively near the potential theater of conflict, and Chinese ships would have nowhere to hide where they could also resupply.
- Although China has huge numbers of shipbuilding facilities and would likely be able to ramp up production as losses accumulated, no new ships would come online in time to affect the conflict.

Submarines

U.S. Losses

- U.S. submarines are relatively quiet and difficult for China to find.
- China has noted weaknesses in conducting ASW.
- U.S. submarine-launched missiles have a longer range than Chinese submarine-launched missiles, so the United States could participate farther from the fight.

China's Losses

- Even the newest Chinese submarines are still relatively noisy and easy to find. They would survive "well" (only in a comparative sense), but after they were incapacitated, the older, noisier ones would be easier to hunt down and destroy.
- The depletion of the Chinese submarine capability would make the U.S. submarine force even more survivable.

Missiles

U.S. Losses and Use of Missile Inventories

- The United States has large quantities of a variety of missiles, as well as a relatively diverse set of platforms from which to launch them.
- Some U.S. missile launchers (e.g., surface ships) are increasingly vulnerable. Air-to-surface missiles are only as survivable as the platforms that carry them.
- U.S. land-based missiles between 500 km and 5,500 km are prohibited by the Intermediate-Range Nuclear Forces (INF) treaty, whereas the Chinese missiles are not, giving China a significant advantage.
- Chinese long-range multiple launch rocket systems (MLRSs) have ranges that approximate those of U.S. land-based missiles. U.S. MLRSs do not have ranges that would make them useful.

China's Losses and Use of Missile Inventories

- China would use many missiles in initial waves and would eventually have to rely on older missiles with shorter ranges and more-limited capability.
- However, launchers would be relatively survivable given Second Artillery's extensive tunneling system.
- China might also hide some launchers to prevent the United States from targeting them and later deploy them in short bursts.

C4ISR

Both countries have some cyberwar and ASAT capabilities. However, China's capabilities are less tested and rugged and would likely wear down faster.

U.S. Losses

- China would be able to disable some U.S. satellites and broader C4ISR capabilities.
- However, the U.S. C4ISR capability is more robust and redundant than China's, so the United States would suffer lower degradation of capability after it survived the first wave.

China's Losses

- China depends less on C4ISR than the United States, but China would also have a much less robust capability once initial C4ISR capabilities were knocked out.
- The United States would focus attacks on Chinese sensors.
- The United States would also be able to knock out a lot of Chinese satellites in initial waves, and China would be hard-pressed to defend its remaining satellites.
- On the organizational side, China already suffers from command issues because of its stultified military organizational structure

and hierarchical command authority, both of which would likely exacerbate problems in wartime.[1]

Severe Case, 2025

Table A.2 displays the expected military losses in the severe case for 2025.

Aircraft

U.S. Losses

- Fifth-generation Chinese aircraft would be coming online and would represent a bigger threat to the United States, along with larger Chinese missile inventories.

Table A.2
Military Losses in the Severe Case, 2025

System Type	U.S. T_1	U.S. T_2	China T_1	China T_2
Aircraft				
Surface ships				
Submarines				
Missiles				
C4ISR				

NOTES: Green signifies modest losses; yellow, significant losses; orange, heavy losses; and red, very heavy losses. A mix of two colors in one cell indicates a range (e.g., green/yellow means we expect there would be modest to significant losses). T_1 = a hypothetical moment, within days of the start of the conflict, when the sides decide whether to continue fighting; T_2 = one year. In the categories where the assessments appear similar for both countries (aircraft for both T_1 and T_2 and C4ISR for T_1), we assess that Chinese attrition would be relatively greater than that of committed U.S. forces.

[1] For more information on organizational weaknesses within the PLA, see Michael S. Chase, Jeffrey G. Engstrom, Tai Ming Cheung, Kristen Gunness, Scott Warren Harold, Susan Puska, and Samuel K. Berkowitz, *China's Incomplete Military Transformation: Assessing the Weaknesses of the People's Liberation Army (PLA)*, Santa Monica, Calif.: RAND Corporation, RR-893-USCC, 2015.

- China would be more likely to damage or sink a U.S. aircraft carrier (or multiple carriers) and any accompanying air wings.
- The United States would likely lose a lot of forces initially in region, though still as a result of missile forces more so than Chinese aircraft.
- U.S. regional air bases would come under attack given that China would have a robust aerial refueling capability.
- The United States is still likely to have a qualitative edge in air-to-air combat but would have to fight a larger number of relatively new Chinese planes.
- U.S. fourth-generation aircraft would be in significant danger from Chinese fifth-generation aircraft.

China's Losses

- U.S. next-generation aircraft would be online.
- Newer Chinese planes would be equipped with data links and networked, improving information sharing and likely reducing losses.
- Depending on production rates of new aircraft, China would likely have a deeper bench of new aircraft than in 2015 and would therefore depend less on outdated and aging airframes.
- China would likely still lack modern experience sustaining air operations over long periods of time.
- However, China would also still have many places to hide aircraft, such as inland bases and tunnel facilities, and might choose to do so rather than have them shot down; or China might rotate them in and out of well-defended interior areas. By 2025, China would have two to three aircraft carriers and accompanying air wings that could be disabled or destroyed.

Surface Ships

U.S. Losses

- China is more likely to damage or sink a U.S. aircraft carrier (or multiple carriers).
- The United States is likely to lose substantial forces initially in region as a result of attacks by Chinese aircraft, missile forces, and, possibly, swarming techniques by PLAN and nonmilitary ships.
- U.S. regional naval bases would also be attacked.

China's Losses

- The United States is still likely to sink Chinese aircraft carriers.
- China has likely dealt with at least some ASW weaknesses, so Chinese surface ships would be less vulnerable to U.S. submarines.
- Chinese naval bases would still be vulnerable, given that all are relatively near the potential conflict theater, but ships might be able to resupply at foreign ports.
- However, the United States might be able to knock out Chinese ships in third-party locations, given its superior global military posture.
- China would be even better equipped to ramp up shipbuilding production, but few new ships would come online in time to affect a conflict.

Submarines

U.S. Losses

- U.S. submarines are quiet and difficult for China to target, despite improved ASW.

China's Losses

- The newest Chinese submarine classes would be much quieter, but there would be only a few of each class, and older submarines would still be detectable.
- Missile ranges on the new submarine-class missile will be longer, so these submarines will be able to participate in a conflict farther from the fight. The newest Chinese submarines would survive well, but the older ones would still be easy to hunt down and incapacitate.

Missiles

U.S. Losses and Use of Missile Inventories

- The United States would still have large quantities of a variety of different missiles, as well as a relatively more diverse set of platforms from which to launch missiles, with the exception of land-based missiles.
- However, the United States would face more-severe initial and protracted losses as a result of attacks on regional U.S. bases.
- The United States would not be able to bring enough tactical strike power or ISR to find and take down Chinese launchers, and U.S. survivability would be a problem.
- U.S. land-based missiles from 500 km to 5,500 km are prohibited by the INF treaty, whereas the Chinese missiles are not, giving China a significant advantage.
- Chinese long-range MLRSs have ranges that approximate those of U.S. land-based missiles. U.S. MLRSs do not have ranges that would make them useful.

China's Losses and Use of Missile Inventories

- China would have significantly more missiles and launchers in 2025.

- China's missile inventories would last longer, but China would still eventually have to rely on older missiles with shorter ranges and more-limited capability. Chinese launchers would be even more survivable and difficult to disable when hiding in the tunnels but would still largely be viable targets during above-ground launches.

C4ISR

Compared with 2015, C4ISR losses in 2025 could be worse for both sides, because both could take down C4ISR with systems that are relatively invulnerable.

U.S. Losses

- The United States would lose a lot more general C4ISR capability initially than in the 2015 scenario. China would also likely be better in 2025 than in 2015 at incapacitating U.S. satellites, and with improved sensing and long-range fires, China could do significant damage to ground components of the C4ISR networks.
- After the initial onslaught, China would have more-robust surviving capability to continue attacking U.S. C4ISR than in 2015, so the degradation of U.S. capabilities would continue.

China's Losses

- China would still depend less than the United States on C4ISR, but China's capability would also be more robust and networked than in 2015, so C4ISR losses would affect Chinese combat capability more. China is also likely to have many more satellites in 2025.
- Some reforms would likely have been made to the PLA's organizational structure and hierarchical command authority, but weaknesses in these areas would likely continue, especially if the PLA has not gained any recent combat experience.

APPENDIX B

Economic Effects in the Severe Case, 2015

Trade

- Glick and Taylor found that, on average, there is an 80 percent immediate drop in trade between adversaries when war commences.[1]
- There was a 96 percent drop in trade in World War I and a 97 percent decline in trade in World War II; trade between adversaries in these wars was "almost totally destroyed."[2]
- Therefore, we assume a 90 percent drop in bilateral trade (between the United States and China) after one year of severe conflict.
- Every 1 percent increase in trade, divided by GDP, equals a 1.97 percent increase in GDP per capita.[3]

U.S. Losses

- Total bilateral trade in 2013 equaled $562 billion.
- U.S. GDP in 2014 equaled $17.4 trillion.
- For the United States, a 90 percent loss in bilateral trade equals a 3 percent decrease in trade, divided by GDP, which leads to a

[1] Reuven Glick and Alan M. Taylor, "Collateral Damage: Trade Disruption and the Economic Impact of War," *Review of Economics and Statistics*, Vol. 92, No. 1, February 2010, p. 108.

[2] Glick and Taylor, 2010, p. 109.

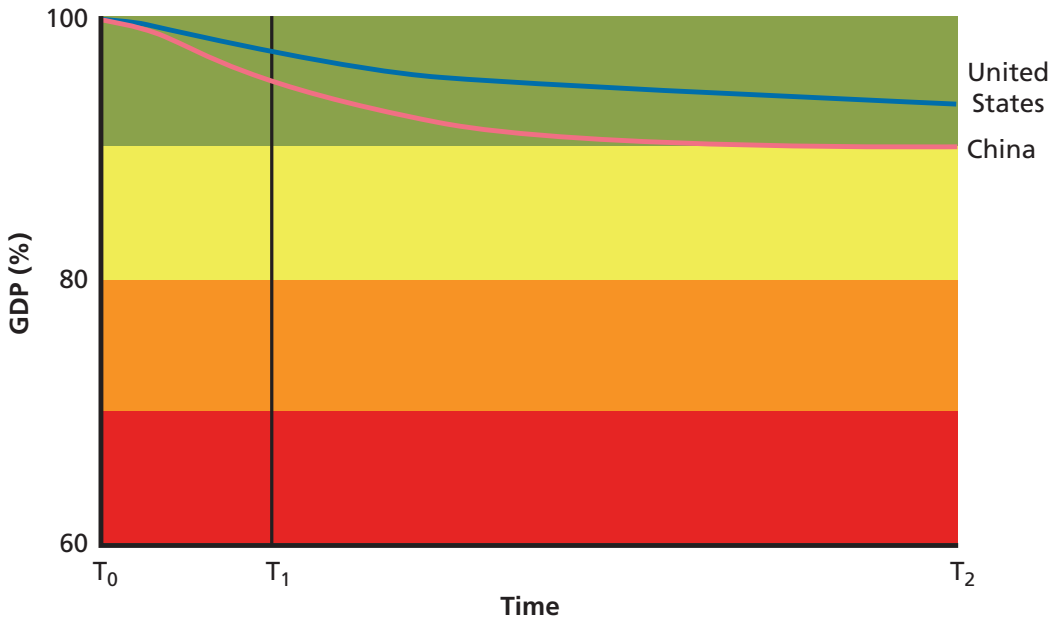
[3] Jeffrey A. Frankel and David Romer, "Does Trade Cause Growth?" *American Economic Review*, Vol. 89, No. 3, June 1999, p. 385.

6 percent decrease in GDP per capita (per year). (See Figures B.1 and B.2.)
- The United States would suffer a 6 percent decrease in GDP after one year as a result of a 90 percent bilateral trade loss.

China's Losses

- Total bilateral trade in 2013 equaled $562 billion.
- China's GDP in 2014 equaled $9.2 trillion.
- For China, a 90 percent loss in bilateral trade equals a 5 percent decrease in trade, divided by GDP, which leads to a 10 percent decrease in GDP per capita (per year). (See Figures B.1 and B.2.)
- China would suffer a 10 percent decrease in GDP after one year as a result of a 90 percent bilateral trade loss.

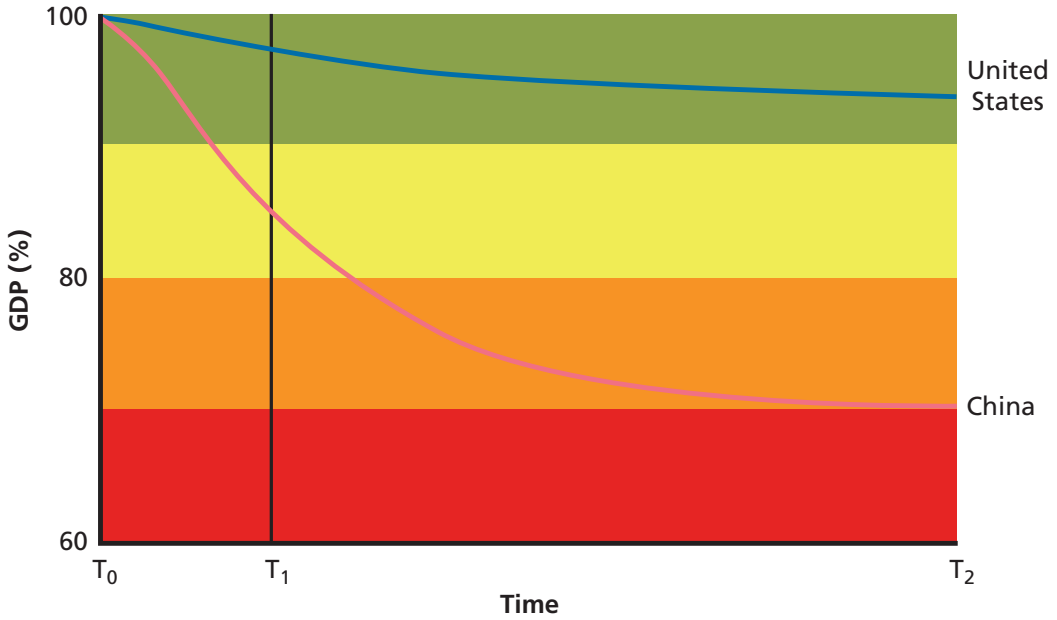
Figure B.1
Estimated Effect on GDP of Bilateral Trade Losses Because of War



NOTES: This graph illustrates the percentage by which GDP may decrease during war as a result of bilateral trade losses. The upper limit of the y-axis indicates GDP at the start of war; as the war continues, GDP at each point in time is given as a percentage of GDP at the start of war.

RAND *RR1140-B.1*

Figure B.2
Estimated Effect on GDP of Overall Trade Losses Because of War



NOTES: This graph illustrates the percentage by which GDP may decrease during war as a result of overall (bilateral, regional, and global) trade losses. The upper limit of the y-axis indicates GDP at the start of war; as the war continues, GDP at each point in time is given as a percentage of GDP at the start of war.

RAND *RR1140-B.2*

- China would suffer a 30 percent decrease in GDP after one year as a result of a 90 percent bilateral trade loss, an 80 percent East Asian regional trade loss, and a 50 percent global trade loss (because of the postulated "war zone" effect on seaborne trade in the Western Pacific).

Consumption

- Because the trade effects described above take account of some of the consumption effects, this analysis of consumption effects presents an upper bound.

U.S. Losses

- Hess found that there is a 4 percent decline in consumption because of war away from home.[4]
- U.S. consumption in 2013 equaled 68 percent of GDP.
- The United States could suffer a 3 percent decrease in GDP after one year as a result of a decline in consumption.

China's Losses

- Hess found that there is a 4.4 percent loss in consumption because of war at home.[5]
- China's consumption in 2013 equaled 34 percent of GDP.
- China could suffer a 2 percent decrease in GDP after one year as a result of a decline in consumption.
- With a higher consumption share (60 percent of GDP), there would be a 3 percent decrease in GDP after one year because of consumption loss.

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[4] Gregory D. Hess, "The Economic Welfare Cost of Conflict: An Empirical Assessment," Working Paper No. 852, Munich, Germany: Center for Economic Studies and Ifo Institute for Economic Research, February 2003, p. 12.

[5] Hess, 2003, p. 12.

Abbreviations

A2AD	anti-access and area denial
ASAT	anti-satellite
ASW	anti-submarine warfare
C2	command and control
C4ISR	command, control, communications, computing, intelligence, surveillance, and reconnaissance
EEZ	Exclusive Economic Zone
GDP	gross domestic product
INF	Intermediate-Range Nuclear Forces
ISIS	Islamic State of Iraq and Syria
ISR	intelligence, surveillance, and reconnaissance
MLRS	multiple launch rocket system
NATO	North Atlantic Treaty Organization
PLA	People's Liberation Army
PLAN	People's Liberation Army Navy

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Premeditated war between the United States and China is very unlikely, but the danger that a mishandled crisis could trigger hostilities cannot be ignored. Thus, while neither state wants war, both states' militaries have plans to fight one. As Chinese anti-access and area-denial (A2AD) capabilities improve, the United States can no longer be so certain that war would follow its plan and lead to decisive victory. This analysis illuminates various paths a war with China could take and their possible consequences.

Technological advances in the ability to target opposing forces are creating conditions of conventional counterforce, whereby each side has the means to strike and degrade the other's forces and, therefore, an incentive to do so promptly, if not first. This implies fierce early exchanges, with steep military losses on both sides, until one gains control. At present, Chinese losses would greatly exceed U.S. losses, and the gap would only grow as fighting persisted. But, by 2025, that gap could be much smaller. Even then, however, China could not be confident of gaining military advantage, which suggests the possibility of a prolonged and destructive, yet inconclusive, war. In that event, nonmilitary factors—economic costs, internal political effects, and international reactions—could become more important.

Political leaders on both sides could limit the severity of war by ordering their respective militaries to refrain from swift and massive conventional counterforce attacks. The resulting restricted, sporadic fighting could substantially reduce military losses and economic harm. This possibility underscores the importance of firm civilian control over wartime decisionmaking and of communication between capitals. At the same time, the United States can prepare for a long and severe war by reducing its vulnerability to Chinese A2AD forces and developing plans to ensure that economic and international consequences would work to its advantage.

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China's Forbearance Has Limits: Chinese Threat and Retaliation Signaling and Its Implications for a Sino-American Military Confrontation

by Paul H.B. Godwin and Alice L. Miller

Center for the Study of Chinese Military Affairs
Institute for National Strategic Studies
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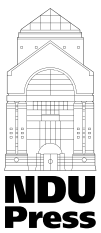

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Executive Summary

Since its founding in 1949, the People's Republic of China (PRC) has employed military force in defense of China's security and territorial integrity. In many such instances, Beijing implemented a calculus of threat and retaliation signals intended first to deter an adversary from taking actions contrary to Chinese interests by threatening the use of military force and, if deterrence failed, to explain and justify Beijing's resort to military force.

This deterrence calculus was applied in each of the major instances in which Beijing has resorted to military force—in Korea in 1950, in the Sino-Indian border dispute in 1961–1962, in the Sino-Soviet border dispute in 1968–1969, and in China's attack on northern Vietnam in 1979. It was also applied in instances in which Beijing's effort at deterrence apparently succeeded and China ultimately stopped short of using military force. Examples include China's responses to the intensifying American combat effort in Vietnam in 1965–1968 and to the 1991 debates in Taipei about delimiting the Republic of China's sovereignty claims.

Beijing implements this deterrence calculus by a carefully calibrated hierarchy of official protests, authoritative press comment, and leadership statements. If the crisis persists and Beijing perceives its interests are not satisfactorily taken into account, its statements escalate in level and may include at first implicit and thereafter increasingly explicit warnings that it may use military force to achieve its goals. This approach has been employed consistently despite the sweeping changes in the PRC's place in the international order, the proliferation of foreign policy instruments at its disposal, the more complex crisis decisionmaking process and domestic political environment, and the dramatic evolution in the Chinese media over the decades.

Significant improvements in China's military capabilities, particularly in the People's Liberation Army (PLA) naval and air arms, have enhanced Beijing's ability to press its territorial claims in the South and East China Seas. Chinese actions, often in response to challenges by other claimants, have raised regional tensions. Moreover, Beijing has at times hardened its objections to U.S. military exercises, aerial surveillance, and intelligence collection in China's exclusive economic zone and in international airspace off its coasts. Aggressive maneuvers by Chinese military aircraft, fishing vessels, and civilian agency ships have led to serious incidents, including a collision between a PLA Navy (PLAN) fighter and a U.S. Navy reconnaissance aircraft that led to the death of the PLAN pilot.

The question for U.S. policymakers is whether improving military capabilities will lead Beijing to substitute sudden or surprise attack for the politically calibrated deterrence signaling it has employed prior to its past use of force. This study assesses the problem in four ways.

It first reviews China's use of force since 1949 to determine the motivations driving Beijing's employment of military coercion. Second, it assesses China's crisis decisionmaking process and crisis management. Third, it assesses the prospects for China's more aggressive use of military coercion in Asia's emerging security environment. Finally, Beijing's signaling of China's intent to employ military coercion is assessed in detail using a series of crisis case studies covering the years 1961–2004.

Although China's military capabilities are continuing to improve and its standing and involvement in the world have changed quite dramatically, this study concludes that the traditional calculus of threat and retaliation statements remains a central tool in Beijing's array of foreign policy and security instruments for responding to and managing tensions and disputes.

The historical instances where China has used military power can be divided into those cases when Beijing has employed significant military force and those cases when lesser military coercion has been employed. As one would anticipate, the forces employed reflect the immediacy of the perceived threat, the importance of the interest being threatened, and the capabilities of the opposing military forces.

Deterrence signaling has been more systematically and directly applied when Beijing has perceived a major military threat or strategic trend placing a high value interest in jeopardy. This includes all four of the Taiwan cases examined (in 1991, 1995–1996, 1999, and 2003–2004).

China's recognition of the power asymmetry between itself and the United States partially explains why none of the post–Korean War crises involving the United States evolved into direct military conflict. Chinese and American scholars agree that one characteristic of Sino-American crises is China's consistent policy of seeking to avoid a military confrontation with the United States even as it employed or threatened the use of military force.

This record does not, however, necessarily transfer to a potential Taiwan crisis. Here, some Chinese hold the view that whereas Taiwan involves a core interest for China, it is only of marginal strategic interest to the United States. Consequently, China should not be fearful of employing military force to deter Taiwan's de jure independence because the United States could well decide that a war with China over Taiwan is simply too costly given the island's low strategic value to the United States.

This view of the asymmetric importance of Taiwan to China and the United States reflects a broader Chinese perspective on past Sino-American crises. From a Chinese perspective, Sino-American crises did not occur in locales where core U.S. security interests were at stake. Whether in Korea, China's offshore islands, Vietnam, or Taiwan, China's interests were under greater threat because the locales were on or near China's national boundaries. More-

over, in crises over the offshore islands and Taiwan, China's territorial integrity and national sovereignty were at stake. These perceived asymmetries of interest contribute to China's view that U.S. policies and strategies are similar to those conducted by imperialist and hegemonic powers in the past.

This same perspective of asymmetric interests applies to China's maritime territorial claims in the South and East China Seas. Whereas Beijing recognizes a U.S. interest in freedom of navigation, any U.S. involvement in how these territorial disputes should be settled is unacceptable because the disputes do not involve U.S. strategic interests. For Beijing, these territorial disputes are sovereignty issues extending back to the 19th century when Japanese and Western imperialists began their violations of China's sovereignty. In China's view, they are not a matter where the United States has any legitimate interest.

Despite its commitment to the restoration of its own sovereignty over islands in the South and East China Seas, Beijing is reluctant to employ direct military coercion when its claims are challenged. These disputes do not constitute a direct threat to Chinese security, and the political, economic, and security consequences of a military confrontation between China and its neighbors, including those with mutual defense treaties with the United States, are evident. Beijing's resolve to avoid a military confrontation is particularly manifest with regard to the United States. Given the potentially grave consequences, if China does consider using military force, Beijing is almost certain to employ the same deterrence calculus it has maintained since the founding of the People's Republic. It would do so to minimize the possibility that it will have to use the military force on which the deterrence calculus ultimately rests and to reduce the costs if force is used.

China's application of the deterrence calculus in a future crisis would likely have the following characteristics:

- *Systematic integration of political and diplomatic action with military preparations as the signaling escalates through higher levels of authority.* Such preparations are often, if not always, overt and integrated into the political and diplomatic messages designed to deter the adversary from the course of action Beijing finds threatening.

- *Stating why China is justified in using military force should this prove necessary.* The message targets both domestic and international audiences. In essence, Beijing declares that it confronts a serious threat to its security and interests that if not terminated will require the use of military force.

- *Asserting that the use of military force is not Beijing's preferred resolution to the threat it faces, but one that will be forced upon it should the adversary not heed the deterrence warnings sent*. In short, Beijing's signaling strategy seeks to grant China the moral high ground in the emerging confrontation. Such an argument supports China's self-identification as a uniquely peaceful country that employs military force only in defense and when provoked by adversaries threatening its security or sovereignty. Presumably, Beijing believes that asserting the moral high ground in a confrontation can ease international response to any military action China might take and thereby reduce the political costs of employing military force.

- *Emphasizing that China's forbearance and restraint should not be viewed as weakness and that China is prepared to employ military force should that be necessary.*

Introduction

Since its founding in 1949, the People's Republic of China (PRC) has employed military force in pursuit of its national interests in security and territorial integrity. In many such instances, Beijing has deployed a calculus of threat and retaliation signals, first to deter an adversary from taking actions contrary to Beijing's interests by threatening use of Chinese military force, and then, once deterrence has failed, to explain and justify Beijing's resort to military force. Beijing has carefully sustained this calibrated hierarchy of official protests, authoritative press comment, and leadership statements despite the sweeping changes in the PRC's place in the international order, the proliferation of foreign policy instruments at its disposal, and the dramatic evolution in the Chinese media over the decades.

This study assesses the context and motivations of the PRC's use of military force since 1949. It then extracts Beijing's use of its calculus of warning statements in detail from several instances in which it has threatened and, in some cases, actually followed through with the use of military force to resolve a dispute. It offers several points to take into account in watching for and analyzing Beijing's use of this warnings calculus in contemporary contexts, and it offers a hypothetical scenario in which this calculus might appear in the context of China's claims in the South China Sea.

The Record: Beijing's Use of Military Force

Across the decades of the Cold War, Beijing faced dire threats to its security, first from the United States, then from the United States and the Union of Soviet Socialist Republics (USSR) together, and finally from the Soviet Union alone. In addition, the People's Republic inherited boundaries from the Republic of China regime that it defeated on the Chinese mainland in 1949. Those boundaries derived from the creation of national boundaries out of what before 1911 had been the frontiers of an empire—the Manchu Qing empire, which established hegemony over a vast stretch of East and Central Asia in the 18th century that included China itself. As such, the PRC inherited a roster of maritime territorial disputes with many of its neighbors. In that respect, Beijing shares similar security concerns with other nation-states that have emerged out of the international relations of empires in modern times, such as India and Indonesia.

Where China differs from most other states is a consequence of the yet-to-be-resolved civil war between the Chinese Communist Party (CCP) and Kuomintang (KMT), which established a government on Taiwan in 1949 following military defeat on the mainland. Beijing views Taiwan, together with any territory the government in Taipei administers, as properly

the sovereign domain of the PRC. The Taipei government is viewed simply as "the Taiwan authorities." Preventing the permanent separation of Taiwan from China is one of Beijing's "core interests" together with retaining Tibet and Xinjiang as inalienable parts of China. Taiwan, however, differs from these two regions in four critical ways. First is the reality that while those two regions are integral components of the PRC, Taiwan has functioned as a de facto independent state since the KMT's retreat to the island. Moreover, beginning in the late 1980s Taiwan's political system transitioned into a flourishing democracy providing a Chinese model of democratic political process contrasting sharply with the CCP's political monopoly in the People's Republic. Second, Taiwan has its own defense establishment and armed forces defending an island separated from the mainland by some 100 miles of water that even today provide a protective moat difficult for China's armed forces to overcome with an amphibious assault. Third, from Beijing's perspective, Taiwan is a potential security threat should the island ever ally with a hostile power. Fourth, and perhaps most significant for Beijing, is the relationship Taiwan has with the United States. Beijing views the American commitment to Taipei stemming from the Taiwan Relations Act (TRA) of 1979, which was legislated following the U.S. shift of diplomatic recognition to the PRC, as totally unacceptable to China. It was this connection to the United States that provided the focus for China's mid-1990s defense modernization programs that continue to this day.

Taiwan's unique status in Beijing's perception of threats to its security and national interests leads us to assess China's employment of military force from two perspectives. The first perspective assesses China's use of military force in circumstances not involving Taiwan as that of any state seeking to defend itself and its security, sovereign territories, and political interests from predatory adversaries. These security and national interest issues have varied in their degree of perceived threat, with the United States and the Soviet Union providing the most severe confrontations. Challenges to China's territorial claims in the East and South China seas, on the other hand, have become important concerns for Beijing, but these sovereignty clashes are not major security threats requiring the allocation of significant military resources. The second perspective takes into account Beijing's absolute commitment to preventing the permanent separation of Taiwan from the mainland. Any indication that Taipei may be moving toward de jure independence or that U.S. policy toward Taiwan is changing is always perceived by Beijing as an extremely serious risk requiring the threat or application of extensive military force. Consequently, although the deterrence signaling pattern will likely not change, the intensity of Beijing's dedication to preventing any potential move toward the de jure independence of Taiwan and the reasons for this commitment are distinct enough to divide China's use of military force into two categories, with Taiwan occupying a significantly different category from other cases.

The summaries and analyses below provide the contextual background and demonstrate the primary motivations for Beijing's employment of military coercion since 1949. They are not intended to provide detailed assessments of each event. In addition to treating Taiwan as a distinct case, we divide China's use of its military power into assessments of when Beijing has employed significant military force and when lesser military coercion has been employed. As one would anticipate, the forces employed reflect the immediacy of the perceived threat, the importance of the interest being threatened, and the capabilities of the opposing military forces. Deterrence signaling has been more systematically and directly applied when Beijing has perceived a major military threat or strategic trend placing a high-value interest in jeopardy.

China's Non–Taiwan-related Use of Military Force

Deterrence has provided the primary driver for China's application of significant military force since 1949. Beijing has overtly deployed major elements of its armed forces four times as a component of a deterrent strategy.[1] In each case, the intent of openly deploying and threatening the use of military force was to deter the adversary from continuing a course of action Beijing believed threatened high-value Chinese security and political interests. Three of these deterrent strategies failed and China went to war. China's October 1950 entrance into the Korean War followed Beijing's failure to deter U.S. forces from crossing the 38th parallel and entering the territory of the Democratic People's Republic of Korea (DPRK). Beijing's objective was to preserve a bordering communist ally and thereby prevent the United States, commanding the United Nations coalition resisting the DPRK's invasion of the Republic of Korea (ROK), from unifying the peninsula and subsequently having forces poised directly on a Chinese border.

The brief 1962 border war with India was fought for more than preserving China's territorial claims along the Sino-Indian boundaries. A central issue for China was preservation of Tibet as an integral part of China. Tibet had become a target of U.S. subversion in the early 1950s. Central Intelligence Agency (CIA) operations supported insurgents and contributed to the Tibetan revolt of 1959, which together with the Dalai Lama's flight to India, Beijing saw as threatening China's control of the region. To improve access to Tibet, China had completed a road in 1957 from Xinjiang through the Aksai Chin border area claimed by India but designated Chinese on China's maps. This road provided the only military transport route to Tibet. Ultimately, beginning in 1958, negotiations over several years failed to resolve territorial disagreements that extended along major sectors of the Sino-Indian border. Failed negotiations together with minor border clashes led to a Chinese deterrent strategy that also failed to convince New Delhi to retreat from its military pressures to assert claims along the border. People's Liberation Army

(PLA) attacks began on October 20, 1962. Following Beijing's unilateral ceasefire in November, Chinese troops withdrew from whatever Indian territory they had entered during combat operations and returned to the positions they held prior to the war. Beijing was demonstrating that it sought no Indian territory but was defending Chinese territory. For Beijing, however, the core issue was ensuring China's continued control of Tibet.

The context of China's 1965–1973 deployment of military forces into the Democratic Republic of Vietnam (DRV) was similar to Korea in 1950. The core objective was to preserve a bordering communist ally against a common enemy. Beijing feared that with the buildup of its forces to 500,000 troops the United States would invade the DRV. The intent of China's overt deployment of PLA units into the DRV was to demonstrate China's willingness to go to war with the United States to preserve North Vietnam. This deterrent commitment was reinforced by the antiaircraft artillery units deployed into the DRV suffering casualties while engaging attacking U.S. aircraft, by PLA construction units keeping communication routes open under repeated U.S. air attack, and by Chinese fighters engaging U.S. aircraft that strayed into China's air space. Because the United States did not send ground forces across the 17th parallel into the DRV, Beijing could view this aspect of its deterrent strategy as successful.

The last major commitment of non–Taiwan-related military force was China's February 1979 attack on Vietnam.[2] The core issue driving this attack was Beijing's sense of growing geopolitical vulnerability. The newly unified Vietnam was viewed as functioning as a Soviet ally seeking to dominate Indochina even as the USSR was poised threateningly along the PRC's extensive northern border. To this sense of strategic vulnerability must be added Beijing's intense anger that North Vietnam—a communist ally that China had supported for more than two decades in its wars for independence and the unification of Vietnam—had turned against its most loyal benefactor. Vietnam's invasion of China's ally Cambodia in December 1978, after more than a year of escalating Sino-Vietnamese tensions, including armed provocations along their border, triggered what Beijing announced as a limited punitive cross-border assault, but the drivers were far more important than the trigger itself. If China did nothing to assist the Khmer Rouge, then Beijing would be viewed as rendered impotent by the emerging Vietnam-Soviet alliance. But China had no land border with Cambodia and thus chose to "punish" Vietnam. It is unlikely that Beijing expected Vietnam to withdraw from Cambodia, and Hanoi did not do so until September 1989. The decision to "teach Vietnam a lesson," however, was directed as much to Moscow as it was to Hanoi.

China has employed lesser military resources for what (with one exception) were less demanding political and military objectives. That exception was the two firefights between Soviet

and Chinese forces in March 1969 on a contested island known as Zhenbao to Chinese and Damansky to Russians in the Ussuri River, which forms the local Sino-Russian border.[3] Mounting military tension along their mutual border over the previous year, including minor border confrontations, led to Moscow's January 1969 warning that continued provocations would lead to the employment of military force. The first major firefight occurred on March 2 and was initiated by China. Although Beijing had made clear to Moscow its willingness to defend China against any Soviet military attack, the March 2 action was deliberately generated by China as some 300 Chinese troops purposely ambushed a Soviet patrol on Zhenbao Island. The second clash came on March 15, evidently initiated by Moscow in response to the Chinese ambush. This second firefight was much larger than the first, perhaps inflicting as many as 1,000 casualties on both sides. Minor military confrontations then continued along the extensive Sino-Soviet border throughout the year, apparently generated by Soviet forces. Moreover, Moscow redeployed a bomber squadron from Eastern Europe to a Central Asian base where it conducted exercises seemingly designed to prepare for an attack on China's Lanzhou nuclear facility.[4] Tensions continued to build until a September 1969 meeting in the Beijing airport where Premiers Kosygin and Zhou Enlai agreed to reopen the border talks cancelled in 1964. The driver for the Chinese ambush remains unclear. There are two potential explanations. First, increasing Sino-Soviet tensions joined with the build-up of Soviet forces along the border, the Soviet Union's 1966 defense arrangement with Mongolia, the Soviet invasion of Czechoslovakia in 1968, and the announcement of the Brezhnev doctrine, which led Mao Zedong to initiate a small military skirmish as a demonstration that China was not intimidated by the USSR's military power—a deterrence strategy. Second, this open resistance to the USSR was designed to lay the groundwork for a Sino-American rapprochement. No matter which explanation is valid (and they are not mutually contradictory), Beijing could not have anticipated the Soviets extending the military clashes throughout the year until the two premiers met in September.

Confrontations over Maritime Claims

Other Chinese employments of non–Taiwan-related, small-scale military force have primarily occurred in the South China Sea where two sets of issues are involved: sovereignty and resources. China claims sovereignty over all South China Sea land features including the two major island groups contained in those waters—the Paracel and Spratly Islands—a claim paralleled by Taiwan as the Republic of China. China's claim to the Paracels is contested only by Vietnam. Beijing's Spratly claim is contested by other Southeast Asian maritime states. Vietnam claims the entire island group, the Philippines claims 53 of its land features, and Malaysia claims

12. Brunei does not claim any of the islands, but does claim part of the South China Sea nearest to it as part of its continental shelf and exclusive economic zone (EEZ). In 1984, Brunei declared an EEZ that includes Louisa Reef. Resource issues revolve around fisheries and energy deposits in equally contested EEZs. China has vigorously objected whenever foreign oil companies have acquired exploration rights to blocks in contested areas of the South China Sea, to include threats against these companies.

Seizure of the southern Paracel (Xisha) Islands from South Vietnam in 1974 was triggered by Saigon's September 1973 all-encompassing claim to the Spratly Islands, which it underscored by sending troops to occupy two of the Spratlys' largest islands. Beijing responded in January 1974 by reasserting China's claim to all South China Sea islands and threatening the use of military force if Saigon did not withdraw its occupying troops from the Spratlys. Although both governments claimed all the Paracels, China occupied the northeastern group of islands known as the Amphitrites while South Vietnam occupied the southwestern or Crescent Group. To affirm its January claim to all South China Sea islands, Chinese troops placed flags on several lightly defended Crescent islands in January 1974. Tensions accelerated from that point on.[5] Chinese troops had occupied Duncan (Chenhang) Islet in the Crescents. Vietnamese forces attempting to recover the island on January 19 were thrown back, so supporting naval vessels began a shore bombardment. These ships were engaged by a PLA Navy (PLAN) flotilla of small ships that forced the Vietnamese away. On January 20, China landed some 500 troops to take control of remaining Crescent group islets held by the Vietnamese, thereby occupying all the Paracels. MiG fighters based on Hainan provided air support for the Chinese assaults. Following the 1979 Sino-Vietnamese border war, Hanoi dispatched three small gunboats to observe the Paracels. Chinese naval vessels interdicted and captured them. The year 1988 saw another small Sino-Vietnamese military engagement, this time over a contested islet in the Spratly (Nansha) Islands. A PLAN flotilla of three frigates was patrolling the Spratlys with the intent of chasing off any Vietnamese ships landing forces on the islets. On March 13, while pursuing a Vietnamese transport ship near Johnson (Chigua) Reef where China was building an ocean surveillance facility, a PLAN frigate spotted Vietnamese vessels in the area. On March 14, both Chinese and Vietnamese troops attempted to land on Johnson Reef. A Vietnamese transport ship providing fire support for the Vietnamese troops bombarded the Chinese forces. The PLAN frigates then sank the transport ship and an accompanying landing craft while damaging another transport vessel. The engagement lasted perhaps 90 minutes with some 70 Vietnamese casualties.

Beginning sometime in 1994, China started building structures on Mischief Reef in the Spratlys, which were also claimed by the Philippines. This was the first time China had occupied

a reef claimed by one of the ASEAN (Association of Southeast Asian Nations) member states. These construction activities, perhaps under the direction of China's navy, were discovered by the Philippines in January 1995. Other than a possible PLAN connection with the construction, there was no direct use of military force by China. Despite the friction created by China's occupation and construction on Mischief Reef, Beijing and Manila agreed to a diplomatic resolution, no matter how tentative, when on August 10, 1995, they signed "A Joint Statement on PRC-RP [Republic of the Philippines] Consultations on the South China Sea and other Areas of Cooperation." Nonetheless, territorial and maritime disagreements with occasional confrontations have continued (including the 2012 confrontation over Scarborough Shoal).

Even as Chinese naval exercises in the South China Sea have increased over time with improving PLAN capabilities, Beijing has sought to avoid excessively provocative naval presence by handing responsibility for regular patrolling of politically sensitive waters and land features to vessels and aircraft from civilian agencies such as the State Oceanic Administration, its subordinate Marine Surveillance Force, and the Bureau of Fisheries Administration.[6] It is these civilian vessels that have been employed to challenge and detain fishing boats from other states operating in Chinese-claimed waters, to identify oil rigs Beijing claims are exploring in Chinese waters, and to harass non-Chinese seismic vessels searching for energy-rich locations. Charges of illegal energy exploration are also raised through diplomatic channels. China has employed similar methods in the waters surrounding uninhabited islands in the East China Sea known as the Diaoyus to China and the Senkakus to Japan, which administers the islands and contests Beijing's claim.

China's assertion of its territorial and resource claims led to ASEAN's effort to establish a "code of conduct" to discourage aggressive behavior and minimize the probability of armed clashes among the South China Sea claimants. Established in 2002 as a political declaration, this nonbinding commitment has made little progress in transforming into a legally binding document, which is ASEAN's intent. It should not be assumed, however, that all South China Sea armed clashes have been generated by China's behavior. Vietnamese soldiers have fired on a Philippine fishing boat, Chinese fishing boats have been rammed and sunk by Philippine naval vessels, and Vietnamese have fired on a Philippine reconnaissance aircraft. Although undoubtedly primarily focused on constraining China's behavior, the code of conduct sought would encompass all ASEAN members.

Harassment of U.S. Sea and Air Intelligence Missions

Beijing has frequently expressed objections to U.S. aerial reconnaissance missions off China's coast and intelligence-collection ships operating in China's EEZ, and also to U.S. Navy exercises

in China's EEZ. Meetings of the U.S.-China Military Maritime Consultative Agreement (MMCA) have often been used to raise objections to American surveillance operations. With equal frequency the United States has stated that U.S. reconnaissance aircraft are operating legally in international airspace and the ocean surveillance ships are equally free of legal restraint when operating in China's EEZ, as are U.S. naval exercises. Although Beijing has selected interpretation of international law, particularly the United Nations Convention on the Law of the Sea (UNCLOS), as China's tool to challenge the U.S. position, the tension is more based on Beijing's quest to establish greater control over what it perceives as threatening military operations close to China. From Beijing's point of view, U.S. aircraft and ships conducting these missions are collecting military intelligence that threatens China's security and are doing so in sea and air space critical to China's defense. Indeed, the Yellow, East, and South China Seas are referred to by Beijing as China's "near seas." These two conflicting perspectives show no sign of being resolved and suggest that incidents such as the 2001 PLAN F-8 collision with a USN EP-3 aircraft and harassment of United States Naval Ship (USNS) ocean surveillance ships by aircraft and vessels of China's civilian maritime agencies and fishing boats will continue.[7]

Nonetheless, there have been no reported incidents of confrontations between U.S. air- and sea-based intelligence collectors and Chinese aircraft or ships since the 2009 incident with the USNS *Impeccable* in the South China Sea. Moreover, Beijing has evidently decided that, as with its patrolling of politically sensitive waters created by competing territorial claims in the South China Sea, it will not protest USNS intelligence-collection missions with Chinese naval vessels as it did in 2001 and 2002 when challenging the USNS *Bowditch* in the Yellow Sea. Since those two incidents, ships and aircraft of civilian law enforcement agencies from the State Oceanic Administration's China Marine Surveillance Force and the Ministry of Agriculture's Fisheries Law Enforcement Command have performed this task, suggesting Beijing seeks to limit the possibility of escalation even as China demonstrates its objection to U.S. intelligence collection. It is unclear whether Chinese commercial fishing vessels involved in harassment actions are under the direct command of these agencies when they interfere with USNS ships, but it is reasonable to assume that some form of direction and communication is involved. Lack of data does not allow any assessment of the degree of "shadowing" of U.S. aerial intelligence that is currently undertaken by the People's Liberation Army Air Force (PLAAF) or PLAN aviation.

China's Taiwan-related Use of Force[8]

Following their 1949 defeat on the mainland and the transfer of the seat of the Republic of China's (ROC) government to Taiwan, KMT forces continued to occupy islands close to

the PRC coastline. These islands were used as bases for harassing actions against the mainland, including coastal raids, attacks on coastal shipping, seizing fishing craft, and firing on and sometimes seizing foreign shipping headed for mainland ports—essentially a blockade strategy. Beijing's ultimate objective was to conclude the civil war by eliminating the KMT's control of Taiwan. But before an assault on Taiwan could be undertaken, the PRC had to gain control of the offshore islands. As the operations to seize control of the offshore islands and preparations for the assault on Taiwan got underway, the outbreak of the Korean War in June 1950 put both into suspension. In 1953, even as the armistice that ended the fighting in July was being negotiated in Panmunjom, PLA operations to eject KMT forces from the offshore islands began once again.

As the second sustained effort to gain control of the offshore islands began,[9] Beijing's concern was that the United States was committed to the permanent separation of Taiwan from China. President Truman's deployment of U.S. 7th Fleet warships into the Taiwan Strait at the opening of the Korean War and their basing in Taiwan was but one indicator. Beijing saw further evidence in Truman's 1950 statement that the occupation of Taiwan by "Communist forces" was a direct threat to the United States and the Pacific, and in 1951 that the future status of Taiwan had yet to be determined. The PLA's August–November 1954 artillery bombardment of Jinmen and Matzu islands off Fujian Province was in part designed to deter Taiwan and the United States from concluding a mutual security treaty by demonstrating Beijing's commitment to the "liberation" of Taiwan in the face of American military power. It had the opposite result. In September the United States dispatched major elements of the 7th Fleet close to Jinmen and Matzu in response.

Although neither President Eisenhower nor Secretary of State John Foster Dulles initially favored such a treaty, in December 1954 China's military pressure on Jinmen and Matzu, followed by successful assaults on the Dachen Islands and Yijiangshan Island, led to just the mutual security treaty Beijing was trying to avoid. Later in 1955, the United States included in its commitment the threat to use nuclear weapons in the defense of Taiwan.[10] The single plausible successful political outcome for Beijing was that the treaty did not commit the United States to defense of the offshore islands. KMT forces continued to use the islands it did occupy as bases to harass the nearby coast of Fujian Province, so in 1958 Beijing resumed the artillery bombardment of Jinmen. In essence, the PLA was attempting an artillery blockade of the island. Despite the deliberate limitation included in their mutual security treaty, the United States assisted Taiwan by escorting its resupply ships to Jinmen harbor. Chinese artillery fired on the Taiwan ships but not U.S. vessels or aircraft. Nor did U.S. ships and aircraft fire on Chinese targets. U.S. forces, like those of the PLA, followed

strictly enforced rules of engagement (ROE) designed to prevent clashes. Ultimately, the artillery blockade of Jinmen became too burdensome for China. Beijing, however, continued a bizarre artillery shelling campaign of Jinmen on odd days of the month until the January 1, 1979, normalization of Sino-American relations, but with explosive ordnance usually replaced by propaganda leaflets. Beijing's perspective was that the future liberation of Taiwan was far more important than risking war with the United States to gain control of what few offshore islands remained in KMT hands. Nonetheless, for the four decades and more following the Jinmen-Matzu confrontation, whenever China employed military force to coerce Taiwan it resulted in American military and political responses detrimental to Beijing.

The most dramatic Chinese demonstration of military force to influence Taiwan and the United States since 1958 took place in 1995 and 1996 through a series of military exercises that included the test firing of unarmed ballistic missiles into waters off Taiwan.[11] The July–August and November 1995 displays of military capabilities were in response to the United States granting a visa to Taiwan's President, Lee Teng-hui, for a private visit in June to speak at his alma mater, Cornell University, where his speech repeatedly praised the virtues of the "Republic of China on Taiwan." Beijing had understood the visa would not be granted, but congressional pressure resulted in its issue.

The March 1996 display of military strength was evidently intended to warn President Lee, who was expected to retain the presidency in the coming election (he did), to cease what Beijing perceived as political moves toward Taiwan's independence. Both sets of exercises were also deterrence messages intended to warn Washington and Taipei that China was ready and willing to employ military force to prevent Taiwan independence with or without U.S. military intervention. To ensure its military exercises were not misunderstood and seen as preparations to invade Taiwan, on March 5 Beijing announced both the impact areas of its missile tests and the times and locations of the military exercises. As added insurance against such misperception of the second series of military demonstrations, Vice Foreign Minister Liu Huaqiu used his scheduled visit to Washington in March at the invitation of the United States to assure his hosts that missile tests were routine exercises. Unfortunately for Vice Foreign Minister Liu, the first missile shots were fired the day before he arrived in Washington on March 8. As a consequence, he confronted a somewhat hostile audience and a particularly angry Secretary of Defense in William Perry.

Washington had issued only a somewhat muted response to the 1995 exercises. The USS *Nimitz* aircraft carrier battlegroup had transited the Taiwan Strait in December, but no U.S. statement accompanied the transit. Despite the assurances given by a high-ranking Chinese

official, the U.S. response to the March 1996 exercises was distinctly different. The U.S. Department of State described the missile firings as "reckless and potentially dangerous," and two aircraft carrier battlegroups were dispatched to the Taiwan area. Beijing had anticipated one battlegroup, but two were seen as an overreaction to what were declared normal exercises.

Assessment

Over the past 62 years, certain patterns have emerged in China's periodic employment of military force to achieve security and political objectives. Beijing has exhibited a consistent approach to threats viewed as high level and of immediate strategic importance to China's security. China's responses to lower level and less immediate threats have shown a different and not necessarily consistent pattern. Whenever Beijing has perceived immediate major threats to security issues of high-level importance to China, it has sought to deter the adversary by warning of its commitment to go to war to protect these interests. Overt deployment of military forces has been an integral component of this deterrent strategy. Korea 1950, India 1962, Vietnam 1965–1973, and Vietnam 1979 are the principal examples. At no time, with the possible exception of the 1969 border clashes with the Soviet Union, has China risked major war without warning the adversary of this consequence should it not cease the course of action identified as threatening in Beijing's deterrence signals. Having the most militarily powerful state in the world poised as an adversary on China's border, which was the situation Beijing confronted in 1950, was a major threat to China's security. Neither was Beijing's concern over Tibet's future a minor security issue in the 1962 border war with India. Nor was a potential U.S. invasion of the DRV in 1965–1968 a marginal issue, for it was seen in much the same perspective as U.S. forces crossing Korea's 38th parallel. A Vietnam-Soviet alliance dominating Indochina was threatening to China's security in 1979.

Lesser threats to Chinese security and political interests have shown a systematic if not necessarily consistent pattern of responses. From Beijing's perspective, China's maritime interests and sovereignty claims have been clearly stated for many decades. What Beijing has perceived are challenges to these territorial claims and to associated interests in fishing and energy resources. In this sense, given the effort China has made to publicly assert these claims, such challenges are deterrence failures which require a response. Beijing has responded to each challenge individually and with only limited and rare military coercion. Because the challengers have been relatively weak militarily and the use of force was not expected to draw in the major powers, Beijing could tailor its military response to what was judged as necessary for the immediate challenge. Although in January 1974 Beijing did warn Saigon to withdraw its

troops who had recently occupied the Spratly Islands or confront China's use of military force, Beijing's immediate action in seizing the Paracels can best be described as a response to a weak Saigon's claim to the Spratlys. The Republic of Vietnam was facing the DRV's military power alone following the withdrawal of U.S. forces 10 months earlier. Beijing probably judged the United States as unlikely to come to the DRV's assistance in part because of the withdrawal and in part because of the Sino-American rapprochement underway since 1972. The use of military coercion in China's occupation of the Spratly's Johnson Reef in 1988 was a function of Chinese and Vietnamese forces clashing over control of the reef. Both were prepared to fight but neither had planned the confrontation. China's 1994 occupation and construction on Mischief Reef did not involve the application of military force. When the construction activity was discovered in January 1995 by a Filipino fisherman, Manila raised strong objections but chose a diplomatic agreement rather than trying to eject China with military force.

China's occupation of Johnson and Mischief reefs had definite political costs, but Beijing was evidently willing to accept them. Nonetheless, Beijing was sensitive to the political costs of being perceived as aggressive in asserting its territorial and resource claims; this sensitivity can be seen in the passing of responsibility to vessels and aircraft from civilian agencies for regular patrolling of politically sensitive waters and enforcement of Chinese jurisdiction over waters it claims. At times, but particularly during the years 2009–2011, these civilian agencies have aggressively asserted Chinese claims. They have detained Vietnamese fishing boats and harassed Vietnamese and Philippine seismic ships conducting hydrocarbon surveys in their claimed EEZs. However, for the past 24 years Beijing has not used its armed forces to enforce China's territorial claims or eject other states from islets and other South China Sea land features they occupy. But even as Beijing has delegated to civilian agencies the responsibility for policing and upholding China's claims, it does so under the protective shadow of China's navy. PLAN exercises in the East and South China Seas, including naval aviation, are no doubt designed in part as a clear demonstration of China's military capabilities and readiness. It is thus plausible to assess these responses to what Beijing perceives as infringements on China's sovereignty as tactical reactions to an immediate incident with the possibility of military coercion present but not actually threatened. China's support for ASEAN's "code of conduct" for all parties with territorial and maritime claims in the South China Sea suggests there is a diplomatic path Beijing is willing to pursue. Beijing's support, however, appears dependent on perceiving the United States as neutral in these disputes. At this time, Beijing publicly states it doubts U.S. neutrality.

A similar assessment can be made of Beijing's responses to U.S. oceanic and aerial intelligence-collection missions. Although Beijing views these missions as security threats, they

are not deemed sufficiently dangerous to warrant a military confrontation with a military as powerful as the capabilities deployed in the Western Pacific by the United States. Consequently, because the United States conducts them despite China's protests, Beijing's reactions are tactical responses to individual intelligence-collection missions asserting China's continuing objections. With the possible exception of China's reaction to aerial sorties (because we have no real data on them), these reactions have minimized military involvement, leaving the task primarily to civilian agency law enforcement vessels and aircraft joined with fishing boats, which we assume are in some way directed by the agency vessels.

Beijing's opposition to the permanent separation of Taiwan from China is based on both nationalist and security grounds, with nationalism being the strongest driver. Beijing's willingness to risk major war to prevent such a separation has been made eminently clear since the PRC was founded in 1949. The 1954 mutual security pact between Taiwan and United States did not give Beijing reason to retreat from this stance. Nor did the 1955 U.S. threat to use nuclear weapons in the defense of Taiwan give pause to Beijing's commitment.[12] Moreover, the United States post-normalization 1979 Taiwan Relations Act is viewed as an extension of the original security treaty and has had little if any effect on Beijing's resolve. Beijing's commitment to risking major war with the United States to prevent separation cannot be doubted, as the military exercises of 1995 and 1996 were intended to remind Taipei and Washington. Beijing is now most concerned with preventing or reversing any perceived trend by Taipei to seek de jure independence.

Prospects

China's military capabilities have increased significantly over the past 30 years to the point where it is now militarily the most powerful Asian state. With its strategic nuclear deterrent undergoing modernization together with the PLA's conventional general purpose forces, and a defense industrial base becoming increasingly technologically proficient, there can be no doubt that China will remain Asia's leading military power. The most difficult question is whether this will lead necessarily to a more aggressive use of military force than China has demonstrated over the past 62 years. There are, nonetheless, indicators suggesting that changes in China's security environment have reduced rather than increased the possibilities for military confrontation with the United States. Moreover, within PLA doctrinal development, increasing capabilities are as much related to deterrence as they are to offensive operations.

China's growing military power over these years has been accompanied by a radical change in its security environment—a change that has potential for considerable effect on Beijing's use

of military coercion. Far from the revolutionary state it was in 1949, China is now part of, even if not fully integrated into, the global and regional institutions of trade, commerce, and security. Much of China's dramatic economic growth can be attributed to its extensive involvement in the global economy. China's continued economic expansion and industrial sophistication depend on its continued participation in the globalized economy and the multilateral institutions that guide it, such as the World Trade Organization. As a permanent, veto-wielding member of the United Nations Security Council (UNSC), China has considerable influence on that institution's decisions. China is also equally present in Asia's multilateral regional security institutions such as the ASEAN Regional Forum, thereby exercising influence on their decisions. The consequence of these changes is that China's economic future and security depend extensively on a continued effective working relationship with global and regional institutions.

China's growing dependence on the globalized economy joined with its active membership in Asia's multilateral security organizations mean that any employment of military coercion will be assessed by the members of these institutions as an indicator of Beijing's strategic intentions. Applying military coercion in the Asian region would confirm the views of those who see China's growing military capabilities as leading to a more aggressive use of military force in the future. Such a perception would not serve China well. Should China be perceived as a major threat to regional security and stability, then the accommodating international environment Beijing needs to achieve its economic objectives could well fade.

With these changes in its security environment and dependence on a globalized economy and its institutions, Beijing is also well aware that its growing military capabilities are viewed with some concern across much of the Asian region. In particular, Beijing is fully aware of apprehension in Washington that its strategic intent is to displace the United States as the leading military power in the Western Pacific. Moreover, it is aware that U.S. regional alliances have been strengthened partly as a consequence of regional concern over China's increasing military power. Adding to these sources of tension, Beijing confronts the reality that the United States, no matter how restrained the actual transfers are, continues to serve as the primary source of Taiwan's advanced military acquisitions and that the AirSea Battle (ASB) concept recently incorporated into U.S. military planning was originally devised as an operational concept to offset China's military capabilities in a Sino-American confrontation over Taiwan.

These developments are taking place even as Beijing's relations with Taipei in recent years have improved to the best they have been since 1949. Trade and commerce are expanding; Taiwan citizens operate businesses and live on the mainland; communications and travel are now easier; cross-strait tourism is growing; academic contacts are increasing; and in all ways except

political and military Taipei and Beijing are more accommodating to each other than at any time since the KMT's defeat in the civil war. Certainly China continues to assert its right to employ military coercion against Taiwan should Beijing perceive such action necessary and China's defense modernization programs continue to enhance the PLA's capabilities to do so even in the event of U.S. military intervention. Nonetheless, the chances of a cross-strait military confrontation are now among the lowest they have been since 1949.

Across the Asia region, China's continental borders are basically quiet with territorial issues either resolved or subject to mutual management, as is the case of Beijing's territorial disputes with New Delhi.[13] There can be no doubt that India views China as a very dangerous potential adversary, but New Delhi and Beijing have mutually accepted that diplomacy rather than military coercion is the most effective way of responding to their longstanding territorial claims. This conflict management approach is sustained even as India upgrades the capabilities of its conventional general purpose forces and strategic nuclear deterrent, and establishes a working relationship with the United States. Beijing must view these developments with interest if not concern, particularly given the attention India now receives from the United States. Nevertheless, Beijing evidently and cautiously accepts that diplomacy is the most effective approach to manage what otherwise could become a disruptive security relationship.

The most problematic security and sovereignty issues for Beijing other than Taiwan are the far-from-resolved maritime territorial and resource disputes China has with its neighbors. While insisting that its sovereignty claims cannot be negotiated away, Beijing's strategy over the past couple of years has been to lessen military coercion even as its civilian agencies have become aggressive in their monitoring and enforcement of China's maritime claims. PLAN exercises in the South and East China Seas and in the Yellow Sea and Western Pacific are designed at least in part as a deterrent strategy complementing the enforcement roles of civilian agency ships and aircraft, but they are also intended to minimize active military participation in conflicting maritime claims.

The question emerging from this set of circumstances is whether they increase or decrease the probability of a military confrontation between China and the United States. Given the relationship between Taipei and Beijing that has developed over the past 4 years, and the potential economic, political, and security costs to China of an attack on Taiwan, the probability of a Sino-American military confrontation over Taiwan appears slim at best. Taipei clearly has no intent of declaring Taiwan's de jure independence and has every intent of sustaining the status quo. The employment of military coercion by Beijing under these circumstances, particularly an attempt to suppress Taipei's defenses with a massive missile and

air attack before the United States could bring sufficient forces to bear, would confirm the views of those who see China's long-term strategic objective as replacing the United States as the Western Pacific's leading military power. Such a perception would significantly undermine Beijing's longstanding effort to be perceived as a constructive, responsible member of the international community. This in turn would certainly have undesirable consequences for China's global economic and commercial links. The potential costs of being perceived as an active threat to regional security and stability when compared with working within the current Beijing-Taipei relationship reduce to a minimum the probability of a Sino-American military clash over Taiwan.

A Sino-American military confrontation emerging from China's territorial and resource claims in the South and East China Seas appears equally improbable. Although sovereignty is at stake and the resources involved in the competing claims are important, they do not reach the same level of significance for China as Taiwan. It is improbable that Beijing would reverse a strategy that has minimized the employment of military coercion for 24 years unless its claims are challenged with military force by another claimant. That seems extremely unlikely. Nor is an effort by Beijing to control the Malacca Strait in order to protect China's ship-borne commerce at all probable. All of Southeast, East, and Northeast Asia are dependent on secure sea lines of communication (SLOCs) through the South China Sea. Apart from piracy problems, such security exists. What incentive would China have to raise regional apprehension and what would be an immediate U.S. response to a freedom of navigation challenge to a critical international SLOC?

A military confrontation over U.S. military exercises and surveillance in China's EEZ and aerial reconnaissance missions in international air space off China's coast also seems improbable. Beijing's objections to these activities have been strongly and repeatedly stated. Thus far, however, harassment of USNS ships conducting ocean surveillance has been conducted by Chinese fishing trawlers and civilian agency patrol vessels and maritime surveillance aircraft. Chinese fighters have shadowed U.S. reconnaissance aircraft, which led to the accidental collision between a USN EP-3 and PLAN F-8 and the death of the Chinese pilot. This collision, however, was attributable to an aggressive PLAN pilot rather than a deliberate ramming. Similarly, the collision of a Chinese submarine with the towed array of a U.S. Navy destroyer was certainly inadvertent. No submarine commander would risk the danger to his boat and crew by conducting a deliberate submerged collision.[14] For the past decade Beijing has not backed up its objections to what are essentially U.S. military intelligence missions with a systematic program of military harassment. Doing so would raise Sino-American tensions to a level that would not serve either

China or the United States well. What is most noticeable is the absence since 2009 of any confrontations between USNS ships operating in China's EEZ and either PLA navy or civilian law enforcement ships and aircraft.

Whether it is possible to come to an arrangement whereby both U.S. and Chinese interests can be accommodated is uncertain. What is clear is that China has not risked a military confrontation with the United States over the issues of aerial reconnaissance, ocean surveillance, and naval exercises. China's strategy, if there is a systematic strategy behind what have thus far been tactical responses to specific U.S. actions, takes the following pattern:

- Sustain the legal campaign challenging the U.S. position that international law and UNCLOS allow military-related freedom of navigation (FON) in a state's EEZ.

- Sustain a diplomatic component where Beijing raises U.S. military-related activities in its EEZ as a constant source of friction in Sino-American relations, particularly the relationship between the two defense establishments.

- Maintain the threat of a tactical campaign tracking and harassing U.S. military activities in China's EEZ and the international airspace off China's coast.

Assuming such a strategy is in place, the chances of a military confrontation stemming from a Chinese action are minimal. Other than the 2001 and 2002 incidents with the USNS *Bowditch*, harassment of USNS ocean surveillance ships has been undertaken by Chinese fishing trawlers and civil agency patrol vessels, not by PLAN ships. Certainly accidents such as the 2001 USN EP-3 collision with a PLAN F-8 and the June 2009 submerged Chinese submarine collision with the towed sonar array of a U.S. destroyer can occur, but accidents do not necessarily lend themselves to shooting wars, particularly when both sides are aware that accidents can occur. Nonetheless, such incidents do contain the possibility of escalating into political crises neither government desires, and the 1998 MMCA has not proven to be effective in this realm. It would be prudent therefore to seek an arrangement with China similar to the 1972 Incidents at Sea Agreement (INCSEA) that the United States arranged with the Soviet Union.[15] A major purpose of such an arrangement would be to prevent collisions and other incidents from escalating into unwanted political crises.

Whereas the circumstances surrounding Beijing's security environment and the policies China has pursued argue against the possibility of a military confrontation, there is an underlying Sino-American mutual strategic distrust that is potentially dangerous. That danger is

the transformation of what is now a strategic rivalry to a relationship of mutual hostility. The United States has been the principal figure in the Asia-Pacific security environment since the close of World War II with an established structure of regional alliances and security agreements throughout the region. Despite Beijing's declarations to the contrary, Washington is apprehensive that China's strategic intent is to replace the United States as the leading power in the Asia-Pacific region. Beijing fears Washington's intent is to prevent China from assuming the role of the region's principal power as its military capabilities increase. These apprehensions exist even as Beijing and Washington recognize the need for cooperation if Asia is to remain stable—a need recognized across the region. What both Washington and Beijing have yet to achieve is a mutual understanding and acceptance of what military capabilities each needs to protect its legitimate regional defense requirements. Thus whereas the current and near-term circumstances forming their respective security environments suggest only a minimal chance for China and the United States to become involved in a military confrontation, the future remains at best uncertain.

The Surprise Attack Option

Although this assessment has discussed the global and regional political and economic dynamics that lessen the probability of Beijing moving toward a more aggressive use of military force as its capabilities increase, one further query must be addressed: will China's expanding military capabilities lead Beijing to move from a political-military signaling strategy designed to deter an adversary from a course of action prior to the use of force to a strategy seeking to exploit the military advantages of surprise attack without such prior warning? Before briefly exploring this question it is necessary to provide a working definition of surprise attack. In this assessment, *surprise attack* is defined as an attack the adversary does not anticipate or, if anticipated, that occurs at an unanticipated place or time. Operational surprise is a longstanding core component of the PLA's "active defense" doctrine extending back to the 1930s. The military objective of a surprise attack is to seize the initiative in the opening phase of a military operation. To cite but two examples, Beijing's October 1950 entrance into the Korean War following its deterrence failure was not anticipated by the United States. Chinese forces implemented a planned operational surprise by crossing the Yalu River at night to cover their movement. In 1979, Beijing's signaling had made clear to Vietnam that an attack was imminent but not where and when it would take place. The PLA's February multiple axis attack across the Sino-Vietnam border was designed and implemented as an operational surprise.

Surprise attack is not only a central component of PLA military doctrine, but the mobilization of military forces frequently used as an element of Beijing's signaling strategy also serves this military purpose. Should Beijing conclude that its deterrence signaling is failing and military coercion will be necessary, the forces mobilized as a component of the deterrence signaling can provide the PLA the capability to conduct a surprise attack. The forces that crossed the Yalu River in October 1950 and those conducting the multiple axis assaults into Vietnam in 1979 were overtly mobilized prior to their employment in a surprise attack. The question emerging from this longstanding practice is what conditions would cause Beijing to conclude that the military advantages provided by surprise attack exceed those sought by deterrence signaling?

This is an inherently difficult query to assess because for the 63 years since the People's Republic of China was established Beijing has employed a deterrence signaling strategy whenever it perceived a major military threat to China's security or sovereignty. Similarly, in Beijing's maritime territorial disputes with its neighbors where China's security does not confront a major threat but rather a dispute over sovereignty, Beijing has chosen to police its sovereignty claims with ships from civilian law enforcement agencies. Certainly the shadow of China's navy is omnipresent, but the PLAN is not responsible for policing or enforcing China's claims. Even the future of Taiwan, the PRC's most sacrosanct sovereignty issue, is dealt with through a process of deterrence signaling that integrates political, diplomatic, and military actions. Beijing has consistently sought to convince Taipei and Washington that military coercion will be employed should Taiwan move toward de jure independence, but this threat provides the underpinning for the far more prominent political, diplomatic, and economic strategy designed to bind Taiwan closer to the mainland.

The single condition where Beijing could conceivably conclude that the military advantages of a surprise attack exceed those sought by deterrence signaling appears to be where military success can be swiftly achieved and the adversary politically and militarily neutralized. The only potential example of this choice is China's seizure of the Crescent Group in the Paracel Islands from the Republic of Vietnam in January 1974. The withdrawal of U.S. forces from the Republic of Vietnam (RVN) in March 1973, joined with Washington's commitment to the 1972 Sino-American rapprochement, left Saigon with no viable ally as it fought Hanoi's invading forces. Beijing could properly conclude from these conditions that South Vietnam was on its way to isolation as the January clashes took place. Even in this example, however, it must be recalled that Beijing threatened military coercion in early January if Saigon did not remove its forces from the Spratly Islands it had occupied following the RVN's September 1973 sovereignty claim.

Whereas operational and tactical surprise will remain a core component of PLA doctrine, it is unlikely Beijing will conclude as the PLA's military capabilities increase that, in responding to threats to high-value security or sovereignty interests, the advantages of surprise attack exceed those sought by deterrence signaling that includes the mobilization of military forces. It is possible, for example, to develop a scenario where Beijing chooses to launch a massive surprise missile and air attack on Taiwan to crush the island's defenses before the United States can intervene with forces sufficient to offset China's military advantages. Such a scenario, however, has to ignore past Chinese responses to anything Beijing perceives as a move toward independence or a change in the U.S. policy of not supporting Taiwan independence. In each case, China has quickly if not immediately threatened military coercion. In each case, the United States has made clear to China that its policy has not changed and Taipei has ultimately backed down from the statements or actions that led to Beijing's forceful response. Moreover, neither China nor the United States seeks a military confrontation over Taiwan. Both seek to avoid such a confrontation because the consequences, although not known, are potentially so severe for the security interests of both.

The threat of surprise attack seems limited to those situations where Beijing can realistically expect a quick military success followed by the neutralization of the adversary. Any such attack on U.S. forces, even if it achieves initial military success, is unlikely to be followed by the political and military neutralization of the United States. The more probable result, as Beijing no doubt appreciates, is the creation of a state of war between China and the United States. That probable consequence is enough to convince Beijing that in an emerging potential military confrontation with the United States, the deterrence signaling it has practiced for decades has far better promise of an acceptable outcome than surprise attack.

China's Crisis Decisionmaking Process and Crisis Management

Although defining a political-military "crisis" can become extremely complicated, this analysis will employ a simple definition. A *crisis* is defined as an unanticipated event perceived as threatening high-level interests of at least one set of decisionmakers while providing only a limited time for response.[16]

Dynamics Influencing Crisis Behavior

- elite perceptions and beliefs
- perceptions of the international environment

- domestic politics and public opinion
- decisionmaking structure and processes
- information and intelligence receipt and processing
- distinctive features that may be unique to one of the participants.[17]

It is entirely plausible that decisionmakers confronting a political-military crisis may have distinctly different perceptions and beliefs from their counterparts on the other side, and that these will lead to different perceptions of the international environment within which the crisis is evolving and the influence of domestic politics and public opinion on their decisions. That is, even before the crisis decisionmaking process is activated and the information and intelligence on the events leading to the crisis evaluated, the parties to the crisis could be approaching each other with distinctly different understandings of what the events entail for their interests. In some cases, the perceived importance of the interest will vary considerably between the two countries. Negotiating a resolution to the crisis therefore requires some understanding of each other's beliefs about what is at stake for what particular interests.

Sino-American Asymmetries: Chinese Views[18]

From a Chinese perspective, Sino-American crises did not occur in locales where core security interests of the United States were at stake. Whether in Korea, China's offshore islands, Vietnam, Hainan, or Taiwan, China's interests were under greater threat because the locales were on or near China's national boundaries. Moreover, in crises over the offshore islands and Taiwan, China's territorial integrity and national sovereignty were at stake. The same was true of the bombing of the Chinese embassy in Belgrade. These perceived asymmetries of interest contribute to China's view that U.S. policies and strategies are similar to those conducted by imperialist and hegemonic powers in the past. This gives rise to China's tendency to view its position in these crises in a self-righteous manner that grants the United States little moral ground in Asian security issues, particularly those that involve what are perceived as China's core interests.

These same crises are seen as demonstrating the asymmetry in national power between the United States and China. That is, Beijing recognized that the United States could apply more policy instruments to affect a crisis than could China. The United States could

select from or integrate economic sanctions, diplomatic isolation, military power, and the mobilization of allies, even in the United Nations. With only limited effective instruments of power, China had to either accept the compromises offered by the United States or use or threaten force even though its military capabilities were far less than those of the United States. Despite its overall military inferiority, China could inflict great costs on the United States as it did in the Korean War. From this came the belief that resolve and determination joined with a limited nuclear deterrent could in part compensate for military inferiority. Nonetheless, China's recognition of the power asymmetry between itself and the United States partially explains why none of the post–Korean War crises involving the United States evolved into direct military conflict. Indeed, Chinese and American scholars agree that a characteristic of Sino-American crises is China's consistent policy of seeking to avoid a military confrontation with the United States even as it employed or threatened the use of military force.[19]

This record does not, however, necessarily transfer to a potential Taiwan crisis. Here some Chinese hold the view that whereas Taiwan involves a core interest for China, it is only of marginal strategic interest to the United States. Consequently, China should not be fearful of employing military force to deter Taiwan's de jure independence because the United States could well decide that a war with China over Taiwan is simply too costly given the island's low strategic value to the United States.[20]

Two fundamental guidelines are seen as governing China's confrontation with a strategic rival, both originating in the mind of Mao Zedong in 1930s and 1940s.[21] In those years, the Chinese Communist Party faced much stronger adversaries in Japan and the Kuomintang. The first guideline is to despise the enemy strategically but take him seriously tactically. Wang and Xu assess this guideline as directing China to be politically principled but tactically flexible. The second directs China to fight on just grounds, to its advantage, and with restraint. From these components stem the following principles:

- China will not attack unless it is attacked. When attacked, China will certainly counter-attack.
- China must never fight unless victory is assured through planning and preparation.
- When the attacker is repulsed, China must bring the fight to a close. China must not be carried away by success.

These guidelines and associated principles were applied in the 1962 border war with India and the 1979 invasion of Vietnam. Both were declared to be defensive counterattacks. They have also been applied in confrontations where no fighting occurred. China assumed the moral posture in the confrontation that stemmed from the U.S. Navy's EP-3 collision with a PLA Navy F8-II, arguing that the EP-3 was spying on China. Morally, therefore, China was in a defensive posture. A similar interpretation is applied to the negotiations following the U.S. bombing of the Chinese embassy in Belgrade, which Beijing could not accept as accidental.

Crises and China's Learning Curve[22]

Wang and Xu discuss what they identify as a learning curve in China's approach to Sino-American crises over the years since 1950, including methods of crisis management. Mao Zedong together with Zhou Enlai and other senior leaders could make authoritative decisions at both the strategic and tactical levels with little or no opposition. Lower level officials and the general public would not be informed, and the Chinese people could be easily mobilized because they followed official direction without much opposition. Chinese leaders today face a different decisionmaking environment. Political leaders at all levels are much better informed of state matters, nationalist sentiments have risen, and freedom of expression through the Internet is now widespread. Consequently, decisionmaking has become increasingly complicated as crisis management has demanded greater cooperation and coordination across the Chinese government.

The increasing complexity of China's decisionmaking process reported by Chinese scholars is found also in the research conducted by Western academics.[23] Whereas the always opaque Politburo Standing Committee remains at the apex of any foreign and security policy decision, the number of official actors seeking to influence the decision has dramatically multiplied. This expansion reflects China's greater and expanding diplomatic, military, commercial, trade, tourist, and academic interaction with the world together with vastly expanded knowledge of world affairs among the general public. China's foreign and security policy formulation now includes not only the apex of Chinese Communist Party organs and the Ministry of Foreign Affairs, but additionally a variety of government agencies, departments of the PLA, Chinese think tanks, and China's multinational corporations. To these actors it is essential to add the expansion of Chinese public awareness of the world beyond China and the far from passive generation of "netizens" willing to express their opinions over the Internet on domestic and foreign policy issues. Whereas it is true that Beijing can make decisions without excessive concern for public opinion, where the decision involves the United States, Japan, or Taiwan, China's increasingly

nationalistic netizens (450 million by one estimate[24]) will be heard from. These expressions of public opinion can then raise questions about the CCP's ability to govern and potentially restrain the leaders' freedom of action.

When viewed from the perspective of a potential Sino-American political-military crisis, the complexity created by the variety of forces seeking to influence the decisions as they evolve creates a major analytic problem. Not the least of the problems encountered is the inability to know or measure the degree of influence wielded by the PLA through its General Staff Department (GSD) or the considerations within the CCP Central Military Commission (CMC) headed though it is by the General Secretary of the CCP—currently Xi Jinping. One aspect of this analytic dilemma is clear, however. Not only do PLA authors now publicly debate foreign policy and security issues, but the PLA appears increasingly willing to demonstrate its improving capabilities no matter how much this antagonizes China's neighbors and the United States. Moreover, in coming years as PLA capabilities continue to improve, China's reluctance to confront the United States military that has marked past crises may dissipate.

Despite the number of Sino-American political-military crises of varying intensity that have taken place over the past 62 years, including most recently the 1995–1996 Taiwan Strait political-military confrontation, the 1999 bombing of the Chinese embassy in Belgrade, and the USN EP-3 collision with a PLA Navy fighter near Hainan Island, there is as yet no effective crisis management mechanism in place that has contributed to emergency communication between high-level officials of both countries. A "hotline" linking the presidents of the two countries was established during the Clinton administration, but no use of it was made during the naval aircraft collision. More recently, in 2008 a direct telephone link or "hotline" was established between China's Ministry of National Defense (MND) and the U.S. Secretary of Defense. The first and largely ceremonial conversation between China's Minister of National Defense, General Liang Guanglie, and U.S. Secretary of Defense Robert Gates was held on April 10, 2008.[25] These direct telephone communications between the heads of the respective governments and militaries will be beneficial only if they are used and there is someone in authority to talk with. The procedure for making a telephone link is that the side wishing to talk must notify the other of the time and proposed topic. If the other side agrees to talk, then the staffs of both sides will arrange the specific time for the call. Despite these arrangements, China has twice closed the military hotline in response to U.S. arms sales to Taiwan. Following announcement of the October 2008 arms sale, China severed the hotline until 2009 when the Vice Chairman of the CMC, General Xu Caihou, visited the United States, and again in January 2010 when the United

States announced another Taiwan arms sale.[26] How well the two hotlines would serve to ease any political-military crisis is therefore open to question.

Consequently, an analytic framework designed to enhance understanding and anticipation of diplomatic indications that China may be planning to employ military force in a crisis is limited by the absence of any certain understanding of China's crisis decisionmaking processes. Judgments will have to be made based on indicators drawn from previous crises where China has threatened or employed military force. Given the increasing complexity of China's crisis decisionmaking process, it is improbable that firm conclusions can be drawn other than in a crisis emerging from an effort by Taiwan to receive international recognition of its de jure independence—an extremely unlikely event.

Signaling the Intent to Employ Military Force—China's Warnings Calculus

In past responses to an international crisis or dispute that directly affected Chinese interests, Beijing has deployed a hierarchy of authoritative leadership statements, official protests, and press commentary intended to assert its claims and to deter its antagonists. If the crisis persists and Beijing perceives its interests are not satisfactorily taken into account, its statements escalate in level and may include at first implicit and thereafter increasingly explicit warnings that it may use military force to achieve its goals. This was the case in each of the major instances in which Beijing has resorted to military force—in Korea in 1950, in the Sino-Indian border dispute in 1961–1962, in the Sino-Soviet border dispute in 1968–1969, and in China's attack on northern Vietnam in 1979. It was also true in instances in which Beijing's effort at deterrence succeeded and ultimately stopped short of using military force, as, for example, with respect to the American combat effort in Vietnam in 1965–1968 and to the debates in Taiwan in 1991 about delimiting the ROC's sovereignty claims.

That Beijing uses such a warnings calculus should not surprise anyone. Most countries, including the United States, deploy a hierarchy of escalating statements intended to warn of use of force and so deter adversaries in disputes and crises. Through public statements by authoritative spokesmen from the State Department up to and including the President, Washington may escalate from statements that make no explicit or implicit reference to potential use of force to statements that advise that "no option has been taken off the table." It may then take deterrence up a notch by admonishing that "all options are on the table." From there, Washington may advise more explicitly that "the military option is on the table." Finally, if its previous warnings have gone unheeded, Washington may declare that it may have "no other option but military force."

Beijing's Hierarchy of Warning Statements

The official and leadership statements and media commentary Beijing deploys in international crises and disputes fit into a hierarchy based on the relative authority of their origin. The authority of leadership statements reflects the relative standing of each leader in CCP or PRC government institutions. A statement by a provincial party chief in the CCP hierarchy or governor in the state hierarchy, for example, is less authoritative than a statement by a member of the CCP Politburo or Secretariat or State Council minister, respectively. The statements by the latter officials, in turn, are less authoritative than those uttered by a member of the Politburo Standing Committee in the party hierarchy or the State Council premier in the state hierarchy, respectively. And all such statements are less authoritative than statements by the party general secretary (or chairman in Mao Zedong's day) or the PRC president.

Similarly, the authority of statements made by military leaders reflects their relative standing in the People's Liberation Army structure. A statement uttered by, say, a military district commander or political commissar is outranked in authority by a statement by the commander or political commissar of a military region. In turn, those statements are outranked by those issued by the director of the General Staff or General Political Departments, which are themselves of less authority than statements by the Central Military Commission and its chairman or vice-chairmen.

All statements and speeches by leaders are authoritative within this hierarchy of authority. These include:

- statements by Politburo members, PRC officials, and PLA leaders in meetings with foreign guests
- speeches by any of these leaders at welcoming banquets, press conferences, and while traveling abroad
- interviews with PRC and foreign media.

Which leaders make statements on foreign policy issues normally reflects policy responsibilities and protocol. All leaders are expected to convey a unified position of foreign policy issues and so normally may be taken as reflecting the leadership's consensus on the issue at hand.

Attention must be paid, however, to the source in assessing leadership statements. Leadership statements that are *publicized in PRC media*, whether in Chinese or as translated into Beijing's foreign-language channels, are always authoritative because they have been officially vetted and translated. Leadership statements reported by foreign media are authoritative but require caution because their rendition and translation have not been vetted by Beijing for publication.

The statements and protests of foreign crises and disputes issued in the name of institutions—normally the PRC Ministry of Foreign Affairs (MFA)—also feature a deliberate inherent hierarchy of authority. The bottom rung in authority is the statements uttered by the MFA spokesman at his routine press conferences. Before the MFA began the practice of routine weekly and then daily press briefings in Beijing, such statements were ascribed simply to the "MFA spokesman." Above that in authority is the "Ministry of Foreign Affairs statement," the top level of authority in MFA utterances. All MFA statements are in turn outranked by "PRC Government statements," the top of the official state utterances.

Finally, the only channel for authoritative media commentary on international disputes and crises is *People's Daily*, which speaks in the name of the CCP Central Committee. *People's Daily* publishes a wide range of reporting (often from the Xinhua News Agency), commentary, signed articles, and editorial comment, and not all of such vehicles are authoritative. In this context, the term "authoritative" refers only to commentary that speaks for *People's Daily* as an institution and, by extension, for the party Central Committee. Such authoritative comment fits into a deliberate hierarchy. The most authoritative vehicle historically has been the "editorial department article" (本报编辑部文章). Historically, these are extremely rare and have been reserved for the most significant issues in intercommunist relations—Khrushchev's "secret speech" and de-Stalinization in 1956, issues in the Sino-Soviet split in the early 1960s, the question of "joint action" with Moscow against the United States in Vietnam in 1965, and Albania's critique of Mao Zedong's "theory of the three worlds" in November 1977. Beneath that level, and far more common, are "editorials" (社论) and, at the bottom rung, "commentator articles" (本报评论员文章).

In addition, there are occasional vehicles for comment that do not clearly speak for the *People's Daily* as a whole but are clearly more significant than ordinary commentary in the paper and so are sometimes referred to by propaganda analysts as "quasi-authoritative." These include articles under such bylines as "observer" (观察家) and "special" or "contributing commentator" (特约评论员). As discussed below, these have come and gone in *People's Daily* from period to period and so analysts must be alert to changing patterns in media commentary over time. All other content in *People's Daily*—including lower-level commentaries, signed

articles, and reporting—is not considered authoritative in the sense of speaking for the regime as a whole and so is not relevant to Beijing's hierarchy of warning statements.

Other media often feature an inherent hierarchy of commentary and often publish or broadcast commentary on foreign crises or disputes in which Beijing has a stake. The PLA newspaper *Liberation Army Daily*, published by the General Political Department, for example, publishes "editorials" and "commentator articles" which speak for the paper as an institution, as do other nationally circulating dailies such as the united front and intellectual affairs newspaper *Enlightenment Daily* and all provincial party newspapers, such as Shanghai's *Liberation Daily*. The authority of such comment, however, is a step or more removed from the core authority of *People's Daily* and so is not normally relevant to Beijing's hierarchy of warning statements. Finally, commentary issued by the Xinhua News Agency, the official mouthpiece of the PRC State Council, is not authoritative except in instances when Xinhua transmits an issuance as an "authorized" comment or statement.

The hierarchies of authoritative leadership statements, official protests, and media comment fit together in a three-tiered array. The structure of each hierarchy as deployed in the post-Mao period is shown in the table below.

These hierarchies also establish a ladder of increasingly authoritative responses that Beijing has used to convey increased urgency and weight and thus intended significance to its responses in an escalating crisis or dispute. At the lowest levels of statement or commentary, Beijing may

Hierarchies of Authoritative Statements (Highest to Lowest)

Leadership Statements	**Official Protests**	***People's Daily* Commentary**
Chinese Communist Party general secretary and People's Republic of China (PRC) president or premier	PRC government statement	Editorial
Politburo member and PRC vice premiers	Ministry of Foreign Affairs (MFA) statement	Commentator article
Central Committee department chief or PRC minister	MFA spokesman statement	Observer article
Provincial party chief or governor	MFA press briefing comment	Quasi-authoritative commentary

simply be putting its position on record concerning the issue at hand and without connotation of a potential response by force. If there is such a connotation, it is usually expressed vaguely—stating, for example, that the opposite party "must bear responsibility for all of the consequences" that ensue. Higher level statements and commentary carry far more weight, underscoring the seriousness with which Beijing views the evolving situation. They need not convey an implication of a threat of military force, but if they do, such warnings are increasingly explicit and usually unmistakable.

When Beijing wishes to convey a potential use of force, it deploys a lexicon of threat and retaliation warnings. It is the presence of these warnings in authoritative statements and commentary with increasing explicitness that conveys Beijing's readiness to use force. The following list presents this lexicon in roughly ascending order of threat:

- X is "playing with fire" and may "get burned"
- Beijing so far has "exercised the greatest restraint and forbearance" but this "should not be taken as weakness and submissiveness"
- Do "not turn a deaf ear to China's warnings"; China "cannot stand idly by"
- "How far will you go? We shall wait and see"
- "China's forbearance has limits"; X is "deluding itself in thinking we are weak and can be bullied"
- If X does not cease its behavior, it "will meet the punishment it deserves"
- "Do not complain later that we did not give you clear warning in advance"
- We have been "driven beyond forbearance" and are "forced to counterattack"; our "restraint was regarded as an invitation to bullying"; our "warnings fell on deaf ears"
- "We will not attack if we are not attacked; if we are attacked, we will certainly counterattack."

By tracking the level of authority and content of leadership statements, official protests, and *People's Daily* comment, and taking note of the threat and retaliation warnings they contain,

therefore, analysts may assess the intent and seriousness of Beijing's response to an escalating dispute or crisis and detect any implication of potential use of military force.

Beijing's calculus of warnings was deployed during many of the crises it faced since 1949. It was deployed in rudimentary form in the summer and early fall months of 1950, preceding China's intervention in the Korean War after U.S. and UN forces crossed the 38th parallel and moved up to the PRC-Korean frontier on the Yalu River. It was used again during the 2 years preceding the brief war with India over the territorial dispute. It was used in 1965 as U.S. forces intervened in Vietnam, presenting Beijing with a crisis that resembled in their eyes the American threat in Korea in 1950. It was deployed in sharply escalated fashion in the Sino-Soviet border crisis of 1968–1969 and again in the contest over Vietnamese regional ambitions in 1978. The following discussion shows how Beijing deployed this calculus of threat and retaliation in two of these past examples.

A Classical Example—The Sino-Vietnamese Border Crisis, 1978–1979

Beijing's use of its hierarchies of leadership statements, official protests, and authoritative *People's Daily* commentary is clearly visible in its escalating treatment of its border crisis with Vietnam beginning in July 1978, culminating in its military attack on northern Vietnam on February 17, 1979.[27] The Sino-Vietnamese border emerged in the context of a larger Chinese effort, begun openly in early 1978, to blunt what it perceived to be Vietnamese efforts, abetted by the Soviet Union, to consolidate "regional hegemony" over its Indochinese neighbors Cambodia and Laos and, by extension, in Southeast Asia generally. In the context of escalating tensions between Hanoi and Phnom Penh in 1977 and early 1978, Beijing began to protest what it characterized as persecution of ethnic Chinese in a registration drive in southern Vietnam. In parallel with Chinese criticism of Hanoi's policies toward Cambodia, Chinese leadership statements, official protests, and authoritative *People's Daily* comment complained about Vietnamese mistreatment of ethnic Chinese. Chinese steps along the way included the dispatch of two ships to Vietnamese ports in mid-June to pick up "victimized Chinese nationals" (an effort that Hanoi blocked by not allowing the Chinese ships to dock), a total cut-off of Chinese economic and technical aid to Vietnam (announced in early July 1978), and the opening first of ambassadorial and then vice foreign ministerial talks on the issue. In this context, the Sino-Vietnamese border crisis emerged in July as a means to bring additional pressure on Hanoi over the larger contest over Cambodian and Vietnamese power.

After detailing incremental steps in Beijing's approach to the larger issues of Vietnamese-Cambodian tensions and Vietnamese treatment of ethnic Chinese (the Hoa people) in which

the border crisis was embedded, appendix 1 charts Chinese leadership statements, official protests, and authoritative *People's Daily* commentary in the escalating border crisis; the appendix tracks statements from late July 1978, when Xinhua began reporting local Yunnan and Guangxi officials lodging a joint protest over Hanoi's forcing ethnic Chinese across the border into China, down through February 17, 1979, when PLA forces launched their "punitive" strike on northern Vietnam. Appendix 1 does not include corresponding statements by Vietnamese officials and authoritative commentary by the Vietnamese Communist Party's newspaper, *The People* (*Nhan Dan*), which would be useful in analyzing the crisis overall. Only the Chinese side is needed to dissect Beijing's warning signals.

Several fundamental points emerge from appendix 1's compilation of authoritative Chinese warning statements. First, the level of authority of statements concerning the border crisis in each tier rises, reflecting the escalating seriousness with which Beijing portrayed the crisis. PRC protests began with low-level regional officials protesting border incidents on July 26 and 29, 1978. Such incidents were then taken up by PRC Vice Foreign Minister Zhong Xidong in successive sessions of talks in Hanoi in August and September, supplemented in early September by statements by the State Council Overseas Chinese Affairs Office and by the MFA's Asia Department Director Shen Ping. In late October, the MFA began issuing "strong protests" in its own name, until a PRC Government statement declared on February 17, 1979, that Beijing was "forced to counterattack" Hanoi's activities with military force.

Authoritative *People's Daily* commentary shows a comparable pattern of escalation. Its first authoritative comment on the border crisis came on September 4. Thereafter, *People's Daily* notched up the level of its authoritative comment by publishing editorials, beginning with its first on November 10 and ending with its fourth on February 18, 1979, marking the launch of the PLA's strike on northern Vietnam.

A second point for attention is the escalation in language used in official protests and *People's Daily*'s commentary and, in particular, the introduction of higher levels of phrases intended to convey the potential for a military response. On November 7, 1978, the MFA's "strong protest" over an "extremely serious bloodshed incident" on November 1 on the border noted for the first time that Beijing has so far "exercised the greatest restraint and forbearance," warning that Hanoi should not mistake Beijing's restraint as "weakness and submissiveness." Thereafter, a *People's Daily*'s editorial on November 10 warned that Hanoi's "arrogant hostility to the Chinese people" had become "quite intolerable" and "sternly" warned Hanoi to pull back from Chinese territory and "not to turn a deaf ear to China's warnings." "How far will you go?" the editorial concluded, adding that "we will wait and see." On December 13, another MFA "strong protest"

over "incessant" Vietnamese encroachments and provoking "serious incidents of bloodshed" charged that Hanoi had "turned a deaf ear" to Beijing's repeated protests and warned that "there is a limit to China's forbearance and restraint." On December 24, a new MFA "strong protest" over a December 23 Vietnamese border intrusion into Guangxi noted that local Chinese militiamen were "compelled to return fire in self defense." And on December 25, a *People's Daily*'s editorial, entitled "Our Forbearance Is Limited," declared that Hanoi had "gone far enough." China, it stated, "will not allow itself to be bullied by others," will "certainly counterattack if attacked," and "means what it says." If Hanoi continued its border intrusions, it would "meet the punishment it deserves." "Don't complain later that we did not give you clear warning in advance," the editorial concluded.

The pattern of escalating language in the Sino-Vietnamese border crisis suggests significant turning points. Up through early November, Chinese protests and commentary had been vague regarding the consequences of what it was depicting as continuing Vietnamese provocations on the border. The shift to sharper warning language in the November 10 *People's Daily* editorial appears to reflect Beijing's implicit public warning that it was prepared to use military force. And the statements in the December 25 *People's Daily* that Hanoi had "gone far enough" and that Beijing had now given "clear warning" conveyed Beijing's decision that it had now decided to use force. Subsequent statements by Chinese leaders—such as Deng Xiaoping's in Washington—about the need to "teach Vietnam a lesson" bear this judgment out.

Finally, it is noteworthy that turning points in Beijing's escalating statements on the border crisis coincide with major turning points in the larger contest that Beijing was waging against Vietnamese expansion in Indochina. The November 10 *People's Daily* editorial on the border crisis immediately followed the signing in Moscow of the USSR-Vietnam security alliance, an event that Deng Xiaoping denounced during a visit to Bangkok as confirming Soviet-Vietnamese complicity in Hanoi's expansionist agenda and as an event to which "we will attach importance." And the *People's Daily*'s December 25 editorial declaring that Hanoi had "gone far enough" in its border provocations coincided with the full-scale assault of Vietnam's army against Cambodia.

Another Classical Example—The Sino-Indian Border Crisis, 1961–1962

As sketched in the first section of this paper, the brief Sino-Indian border war in October–November 1962 was rooted in Beijing's larger concern of consolidating its claims to sovereignty over Tibet. Its construction of a road accessing western Tibet from Xinjiang in 1957 and the road's discovery thereafter by India led to failed border negotiations over subsequent years and

eventually to New Delhi's "forward" policy in 1961 of advancing Indian Army sentry posts into the zone disputed with China. After more than a year of successive official protests and authoritative *People's Daily* commentary, Beijing moved with military force on October 20, 1962.

As the details in appendix 2 show, the protest calculus employed by the PRC's MFA and *People's Daily*'s hierarchy of authoritative commentary was different in the 1960s than the practices of the post-Mao period exemplified in the 1978–1979 Sino-Vietnamese border crisis analyzed above. In particular, following media practices of that day, *People's Daily* published authoritative "observer" articles instead of commentator articles. But the same pattern of escalating authority and language was evident in the 1961–1962 border crisis with India.

Signaling Case Studies—Taiwan

Over the past two decades, Beijing has deployed its classical hierarchy of warning signals at least four times regarding Taiwan. These were:

- in 1991, as the opposition Democratic Progressive Party (DPP) made explicit its Taiwan independence platform and the ruling Kuomintang (KMT) moved to convene the first session of the ROC National Assembly since 1946

- in 1995, after Washington surprised Beijing by issuing ROC President Lee Teng-hui a visa to visit the United States

- in 1999, when ROC President Lee Teng-hui described the relationship between Taiwan and the Chinese mainland as a "special state-to-state relationship" in the early months of campaigning for March 2000 general elections

- in 2003–2004, when ROC President Chen Shui-bian and DPP politicians pressed passage of a referendum law and then put referenda on the ballot for March 2004 general elections.

In none of these instances did Beijing ultimately use military force against Taipei, although once Beijing's efforts to deter Lee Teng-hui from actually making his trip to the United States in June 1995 failed, Beijing did stage over the ensuing 9 months a series of three military exercises—including missile "test" firings into the East China Sea in August 1995 and off Taiwan in March 1996—to underscore its readiness to use military force to achieve its objectives. And in 1999, Beijing's warnings about potential use of military force reached the highest levels

of authority and sharpness. Each of these case studies therefore offers insight and clarity into how Beijing would respond to cross-strait tensions relevant to today. Appendix 3 offers detailed chronologies for each of these cases.

1991

The context for Beijing's deployment of its classical hierarchy of warning statements in 1991 was, first, KMT steps to revise the 1946 ROC constitution and hold elections for a new National Assembly; and second, escalation of public advocacy on behalf of Taiwan independence. An extraordinary session of the National Assembly in April 1991 mandated an end to the period of national mobilization and elections for a new National Assembly in 1991 and for the Legislative Yuan in 1992. The new National Assembly elections held on December 21—the first since November 1946—were a critical step in the evolution of ROC politics because they ended the 45-year tenure of mainland members who were elected in 1946 (having migrated to Taiwan at the end of the Chinese civil war), and installed a new membership that was overwhelmingly Taiwanese in origin. This transition from decrepit mainland holdovers to Taiwanese politicians enabled long-suppressed advocacy of Taiwan independence to move to the forefront of the political agenda.

Advocacy of Taiwan independence was in particular the agenda of the Democratic Progressive Party, which was founded in 1986 before the KMT lifted the longstanding ROC ban on political parties other than the KMT itself in 1987 and that operated under a continuing threat of prosecution under a statute that banned advocacy of Taiwan independence. As Taiwan's politics liberalized, however, public agitation on behalf of independence escalated. As the KMT and ROC dropped enforcement of the ban, the DPP in 1991 moved to write a new party platform that explicitly incorporated a plank on independence. In August 1991, a DPP seminar produced a draft for a new state constitution that declared Taiwan a "democratic republic" and renamed the ROC the "Republic of Taiwan." The following October 13, 1991, the DPP formally adopted a platform calling for the establishment of a "Republic of Taiwan" by popular referendum.

In the narrower cross-strait context, Taipei had begun to respond to Beijing's decade-long pitch to begin cross-strait exchanges that might lead to what Beijing hoped would be a "peaceful unification" and resolution of the Taiwan question. After the KMT lifted the ban on Taiwanese tourist travel and business investment in the PRC, a million Taiwanese a year were visiting the mainland and Taiwanese investment on the mainland coast skyrocketed. In November 1990, Taipei established the Straits Exchange Foundation (SEF), an unofficial body that would coordinate issues arising from the growing cross-strait exchanges. The rise of the DPP and advocacy

of Taiwan independence and the concurrent Taiwanization of ROC politics put Beijing's long-term goals in jeopardy.

The broader international context in which these developments in Taiwan unfolded included the wave of new democracies created among some of the states of the former East European Soviet bloc, the independence of the three Baltic states from the Soviet Union, the evolving collapse of the Soviet Union itself, and the relaxation of tension between the two Koreas, leading to the December 1991 bilateral nonaggression and denuclearization pacts. The PRC continued to suffer from the blackened international image it received from its brutal suppression of the Tiananmen demonstrations in June 1989, although the G7 countries had already begun in 1990 to roll back the economic (but not military) sanctions they had imposed the year before.

Through the early months of 1991, PRC media reported on political trends in Taiwan and commented only at low-level, nonauthoritative levels. Finally, on June 3, an authoritative *People's Daily* commentator article warned that Taiwan's politics were on "a dangerous path" and warned advocates that they were "playing with fire" and to "rein in at the brink of the precipice." Two more commentator articles—one blasting the DPP's draft "Republic of Taiwan" constitution and another condemning any international support for "one China one Taiwan"—followed over the ensuing months.

Meanwhile, speeches by top PRC leaders on important anniversaries—by CCP General Secretary Jiang Zemin on the CCP's 70th founding anniversary, by Premier Li Peng on National Day, and by President Yang Shangkun on the 80th anniversary of the 1911 Revolution that created the Republic of China—incorporated warnings against pursuit of Taiwan independence. Yang Shangkun's warnings, delivered 2 months before the National Assembly elections, were the sharpest, advising that Beijing would "not sit idly by" in the face of efforts to "split" China and urging Taiwanese not to make "a wrong appraisal."

Finally, in a speech marking the 60th anniversary of the 1936 Xian Incident (which formed a CCP-KMT coalition against Japan) and 10 days before the Taiwan elections, Jiang Zemin renewed calls for cross-strait talks and reiterated Yang's warning to Taiwanese not to make a "wrong assessment." Five days before the elections, Beijing announced formation of its own unofficial body corresponding to Taipei's SEF, the Association for Relations across the Taiwan Strait (ARATS).

The December 21 elections gave KMT candidates an overwhelming majority in the new National Assembly, marking a signal defeat for the DPP. The PRC media immediately reported the election's results as rejection of Taiwan independence by Taiwan's electorate.

In summary, Beijing's invocation of its warnings hierarchy was relatively restrained. There was no press comment above the level of *People's Daily* commentator articles—the lowest rung of authoritative commentary—devoted specifically to Taiwan events; the sole *People's Daily* editorial was not aimed specifically at Taiwan trends but rather was pegged to the 20th anniversary of the PRC's seating in the United Nations. High-level leadership statements came only in broader speeches marking major anniversaries. Finally, leadership and *People's Daily* warnings focused on political themes, advising Taipei not to go too far without raising the prospect of military intervention.

1995

The 1995–1996 Taiwan Strait crisis was triggered by the decision of the Clinton administration—after months of advising Beijing that it would *not* do so—to grant Taiwan President Lee Teng-hui a visa to visit his alma mater, Cornell University, where he had earned a Ph.D. in 1968 in agricultural economics. Several of Lee's friends in Taiwan donated money to Cornell to endow a Lee Teng-hui chair in agricultural economics, with the stipulation that Lee be invited to attend the chair's inaugural ceremony in Ithaca, New York. Lee's visit was thus billed as private, although it was widely expected that he would plump for greater acceptance of Taiwan in the international community. The Clinton administration vowed it would not issue Lee a visa because granting a visa to a sitting Taiwan president would violate the 1978 agreements that normalized U.S.-PRC relations. The administration relented, however, when first the House of Representatives and then the Senate passed nearly unanimous nonbinding resolutions demanding that the administration give Lee a visa. On May 22, the State Department announced that it would grant Lee a visa after all. Lee's visit proceeded on June 8–12. Beijing appears to have regarded the Clinton decision as the last straw in a slow, incremental effort by Washington to upgrade ties with Taipei. In 1992, the Bush administration decided to sell 150 F-16s to Taipei. In 1994, the new Clinton administration completed a Taiwan policy review that upgraded the level of cabinet contacts with Taipei. In U.S.-PRC relations, the administration had in May 1993 conditioned renewal of PRC most-favored-nation trading status in 1994 on performance in several categories of human rights improvements, a threat that the administration ultimately backed away from even though Beijing did little to meet Washington's conditions.

Beijing's initial response was immediate and authoritative, pressing Washington to reverse its decision. As the appended chronology shows, Vice Premier and Foreign Minister Qian Qichen the next day delivered a "strong protest" to U.S. Ambassador Stapleton Roy, warning of "grave consequences" unless Washington reversed itself. A Foreign Ministry statement—the

top level of Foreign Ministry utterances—repeated the same warning. Two days later, the Foreign Ministry announced that two ongoing visits by PRC leaders were cut short. On May 26, a *People's Daily* commentator article, entitled "A Serious and Dangerous Retrogression," advised that Beijing "absolutely would not tolerate" violation of its sovereignty. And a nonauthoritative editorial in the PRC-controlled Hong Kong communist newspaper *Ta Kung Pao* urged Washington "not to turn a deaf ear" and "miscalculate," forcing Beijing to "react further."

Once Beijing's effort to press Washington to reverse itself failed and Lee's trip began, Beijing then moved to levy consequences in both U.S.-PRC and cross-strait relations. On June 9 (the day after Lee's trip began) in a meeting with President Clinton, PRC Ambassador Li Daoyu stated that Washington had "seriously damaged relations." A *People's Daily* commentator article the same day reiterated Li's assessment and that Washington would "pay a price" for its actions. On May 16, a Foreign Ministry spokesman announced that Li Daoyu had been called home indefinitely "for consultations" and that a long-planned second session of SEF-ARATS talks was postponed indefinitely. In early July, Beijing announced a series of "missile tests" in the East China Sea, the first of a set of three military exercises that unfolded over the following 8 months. These included live-fire amphibious landing exercises on Dongshan Island off the Guangdong coast in November 1995 and a second round of "missile tests," this time into waters immediately off Taiwan's largest ports, Kaohsiung and Keelung, in March 1996—on the eve of Taiwan's presidential election.

In summary, Beijing deployed its warnings hierarchy at a high, authoritative level in reaction to a U.S. reversal of policy that clearly surprised and embarrassed it. Its warnings were calculated to press Washington to reverse itself, and when that failed, it responded with political steps to express its displeasure, complemented by a prolonged series of military exercises intended to underscore its readiness to defend its sovereignty against further slight.

1999

Taiwan President Lee Teng-hui's statement during an interview with the German news agency *Deutsche Welle* on July 9, 1999—that the relationship between Taiwan and the Chinese mainland was a "state-to-state, or at least special state-to-state" relationship—triggered the most intensive invocation of Beijing's warning calculus. Over the ensuing 2 months, Beijing's warnings escalated in level and clarity with regard to a potential use of military force. Tensions abated and Beijing's warnings receded only in late September after repeated assurances from the Clinton administration that it continued to adhere to a "one-China" policy and after it became clear that Taipei's bid for greater international recognition had failed.

Several contextual factors catalyzed Beijing's escalating response to Lee's statement. First, Lee made his statement as the campaign for the March 2000 presidential election was getting under way. Lee himself was not running, so his remark was perhaps an effort both at shaping his political legacy and at shaping the politics of the election. U.S.-PRC relations had been put on an improved footing during the bilateral summits of October 1997, when Jiang Zemin visited the United States for the first time, and June 1998, when President Clinton visited China. But more recently relations were troubled first by President Clinton's last-minute rejection of a bilateral accord on PRC accession to the World Trade Organization (WTO) during Premier Zhu Rongji's visit to Washington in March 1999 and then in April by the American bombing of the Chinese embassy in Belgrade during the Kosovo war. In addition, in March Congress began debate of a Taiwan Security Enhancement Act, intended to beef up American military collaboration with Taiwan. In this period, the Clinton administration was also debating whether and how to extend theater missile defense to Taiwan. Finally, Nicaragua and a few other member states introduced a motion in the UN General Assembly calling for the seating of Taipei in the United Nations.

As the chronology in appendix 3 shows, Beijing's initial response to Lee's July 9, 1999, statement came in the form of a joint spokesman statement issued on July 11 by the CCP Central Committee and State Council Taiwan Affairs Offices that warned Taipei "to pull back before it is too late and to stop playing with fire." On the 12th, Ministry of Foreign Affairs spokesman Zhu Bangzao warned Lee Teng-hui that he "had gone too far down the dangerous road of playing with fire" and urged him to "rein in at the brink of the precipice." Wang Daohan, chairman of Beijing's unofficial cross-strait exchanges organization ARATS, declared the same day that Lee's statement "undermined the foundation" necessary for continued cross-strait contacts. On July 14, a *People's Daily* commentator article blasted Lee's statement as exposing his "secessionist ambitions."

On July 20, a report in the PRC-controlled Hong Kong communist newspaper *Wen Wei Po* complemented these official warnings, citing Su Jing, deputy chief of staff of the Nanjing Military Region—the region charged with primary military responsibility over the Taiwan Strait—on the progress of a PLA exercise on the Fujian coast and predicting that Lee Teng-hui will "ruin himself by playing with fire" and will "drown in an ocean of people's war." On July 27, Xinhua cited PLA Chief of the General Staff Fu Quanyou denouncing Lee as "lifting a great rock only to drop it onto his own feet" and declaring that the PLA has "the determination and strength" to defend China's sovereignty. Defense Minister Chi Haotian similarly warned Lee "not to underestimate" the PLA's determination. Over the same period, *People's Daily* published three more commentator articles denouncing Lee's statement.

In late July and early August, SEF chairman Koo Chen-fu and Taipei's Mainland Affairs Council proffered elaborations of Lee's statement, prompting an escalation in Beijing's response. On August 10, *People's Daily* published an article under the byline "Observer," a highly authoritative vehicle that had disappeared since the 1960s, calling on Taipei "to stop before the brink of the precipice." On the 18th, the military newspaper *Liberation Army Daily* published a commentator article declaring that the PLA would rather lose a thousand men before ceding an inch of territory. Over the next 2 weeks, low-level reports in PRC and Honk Kong communist media laid out Beijing's military options in the event of a war in the Taiwan Strait and played up China's missile capabilities. On September 2, Ministry of Foreign Affairs spokesman Sun Yuxi warned that Lee Teng-hui's efforts to incorporate his "two-state theory" into the KMT's platform were "pushing the Taiwan people nearer to the abyss of war."

Over the first 3 weeks of September, Beijing's warnings of potential war sharpened further. In comments aired by Xinhua, CCP chief Jiang Zemin, Fu Quanyou, and Chi Haotian in succession renewed promises that the PLA stood ready to defend Chinese sovereignty. CMC Vice Chairman Zhang Wannian on September 10 was reportedly "keeping a close eye" on Taiwan developments while monitoring PLA exercises off Zhejiang and Guangdong, declaring that the PLA was "ready to crush" any attempt at splitting the country. On September 13, the Hong Kong communist newspaper *Ta Kung Pao* reported a CMC resolution ordering steps to mobilize for war over Taiwan. Between September 7 and 16, *People's Daily* carried six commentator articles on the crisis.

As rapidly as Beijing's warnings intensified over the weeks down through mid-September, they dropped off sharply after September 16. On that day, Ministry of Foreign Affairs spokesman Sun Yuxi noted Beijing's satisfaction at the defeat of the proposal to seat Taipei in the UN. In addition, President Clinton conveyed American assurances of a continuing "one-China" policy to Jiang Zemin during a meeting in Auckland, New Zealand, on September 11, an occasion that Foreign Minister Tang Jiaxuan praised as having produced "positive and constructive results."

The level and clarity of Beijing's warnings regarding the prospects for military confrontation in the 1999 crisis exceeded those attending any other in the post-Cold War era. Beijing capped the episode in February 2000 when it released a new white paper on the Taiwan question that added a new condition under which it might be forced to resort to military force. In addition to its two longstanding bottom lines—if Taipei were to declare independence or if foreign forces intervened in Taiwan to promote Taiwan independence—Beijing now added the refusal of Taipei to negotiate "*sine die*" (without a date certain) peaceful resolution of the unification question.

2003–2004

The most recent deployment of Beijing's warning calculus was in response to the efforts of Taiwan President Chen Shui-bian and the DPP to push through the Legislative Yuan a referendum law that could provide the mechanism for a plebiscite on independence for Taiwan. In this instance, Beijing dealt with a favorable context in U.S.-PRC relations. In 2002, Washington explicitly reaffirmed its "one-China" policy and its opposition to Chen Shui-bian's statement that "there is a country on each side" of the Taiwan Strait (一邊一國), a formulation that recalled Lee Teng-hui's "state-to-state" cross-strait relationship. Throughout the referendum law debate in Taiwan, Washington renewed its insistence that it did not support Taiwan independence and reaffirmed to Beijing its "one-China" policy.

In this context, Beijing could respond to the debate in Taipei in the summer and fall months of 2003 with low-level authoritative protests issued by the State Council Taiwan Affairs Office that branded Chen's and the DPP's referendum push as "a dangerous trend" and that warned Taipei that Beijing would not "tolerate" steps toward Taiwan independence. In November, in response to comments by American politicians that blurred Washington's opposition, Beijing's warnings notched up as the Ministry of Foreign Affairs spokesman began to call on the Bush administration "to be crystal clear" in its commitment to one China and its opposition to a referendum.

Also in late November 2003, Taiwan's Legislative Yuan passed a watered-down referendum law, and Chen Shui-bian moved to put two referenda on the agenda for national elections scheduled for March 20, 2004. Beijing's warnings thereafter escalated as the elections approached. On December 25, Hu Jintao met with 200 businessmen from Taiwan and stressed common interest in stable cross-strait relations and warned that Beijing would not tolerate Taiwan independence. In early January, State Council Taiwan Affairs Office deputy Wang Zaixi warned that Beijing's "restraint has a bottom line" and Beijing would not "waver or compromise" with regard to Taiwan independence. In mid-January, while visiting New York, Wang recalled that the February 2000 PRC white paper had set a third condition under which Beijing would consider use of military force—if cross-strait negotiations did not begin *sine die*—adding that Beijing would have to "move up its timetable" if Taipei made the "wrong judgment."

High-level leadership statements on Beijing's opposition to the referendum continued down to the eve of the election. Finally, on March 20, 2004, Xinhua reported the defeat of Chen's and the DPP's referenda, and a joint Central Committee and State Council Taiwan Affairs Office statement pronounced the referenda as "illegal acts that went against the will of the people."

Analyzing Beijing's Signals—Things to Consider

Beijing's traditional calculus of threat and retaliation statements remains a critical tool in its array of foreign policy and security instruments in responding to and managing tensions and disputes in which it engages. Analysts seeking to assess its use in contemporary contexts, however, must take into consideration several points that bear on its interpretation.

First, due account must be taken of the fact that PRC media have evolved dramatically. Commentary formats come and go, including those that are authoritative. *People's Daily* editorial department articles—long the most authoritative format in the party's newspaper—have disappeared, and "observer" articles have become exceedingly rare. Editorials and commentator articles remain reliable indicators of authoritative commentary in *People's Daily*, but analysts must remain aware of the ongoing evolution in media practices.

Second, much of the vocabulary employed in China's warnings calculus is not unique to authoritative commentary and may be found in low-level commentary that does not speak authoritatively for the regime, as authoritative commentary does. Warnings to "rein in before the brink of the precipice," not to "turn a deaf ear," to "make a correct assessment," or that Beijing cannot "stand idly by" frequently occur in low-level, nonauthoritative comment. Such warnings may be regarded as low-level expressions of Beijing's concern about a situation, but they do not carry the weight of the same themes expressed in authoritative commentary. It is the authority of the source, not the themes themselves, that merits attention.

Third, as China's engagement with the world has advanced over the past four decades, the foreign and security policy institutions and the instruments available to Beijing to shape pursuit of its interests have proliferated. This means that the range of institutions and voices that may respond with some authority in any international dispute has broadened correspondingly. In the 1950s and 1960s, when the People's Republic was recognized by a small minority of countries in the international order, the Ministry of Foreign Affairs was an underdeveloped mechanism for engaging China's interest through ordinary state-to-state diplomacy, while the party's International Liaison Department (ILD) served as a primary mechanism in international affairs, especially with fraternal Soviet bloc states and foreign communist parties and revolutionary movements. Since Beijing's admission to the United Nations in 1971 and as the PRC was increasingly recognized diplomatically, the ILD receded in significance and took on new foreign relations tasks.

In addition, as Beijing's economic and military relationships have flourished abroad, new institutions and sub-bureaucracies now take part in Chinese foreign policy. The consequence of this proliferation of actors and instruments has been to deepen the hierarchy on institutional

authority. It also adds to the sophistication of Beijing's means to respond to an international dispute. When the National People's Congress (NPC) Foreign Relations Committee protests a U.S. congressional resolution on a Taiwan issue, its statement should not be discounted, because the NPC is really an instrument of policy made in the party, the real seat of power. It should be seen instead as Beijing's use of the corresponding institution by protocol in responding to the specific source on the U.S. side, and so be taken with due regard for its authority, not its actual power and policy influence within the Chinese system.

Conclusion—A Hypothetical South China Sea Signaling Scenario

Nothing would be more destructive of Sino-American relations and Asia's security dynamics than a decision by China to threaten a military confrontation in order to change a U.S. course of action Beijing perceived as threatening its interests in the South China Sea. It would create a political-military crisis far exceeding those that erupted from the accidental 1999 bombing of China's Belgrade embassy or the 2001 collision between two U.S. and Chinese military aircraft. Such a crisis would stem from two conditions. The United States would view such a threat as the first Chinese effort to challenge American military supremacy in Asia's maritime periphery. Second, all of Asia would perceive the potential military confrontation as possibly determining the future security dynamics of the region. Beijing's decisionmakers would recognize the probable strategic implications of such a decision. Conceiving of events that could lead to such a perilous decision is in itself confounding. Consequently, the suggested scenario will focus on a low level of coercive diplomacy that goes beyond the harassment which U.S. intelligence-collection missions have faced over the past decade, but which is far less threatening than an outright military confrontation.

The Scenario

The core of this scenario is based upon the proposition that Beijing perceives closer military ties among the United States, the Republic of the Philippines (RP), and the Socialist Republic of Vietnam (SRV) as a threatening strategic trend much as it did Hanoi's November 1978 security treaty with Moscow. It is a trend Beijing identifies as originating in U.S. Secretary of State Clinton's firm position on U.S. South China Sea interests at the Hanoi-hosted ASEAN meetings of July 2010. Whereas Beijing saw the Hanoi-Moscow treaty as confirming its perception that Vietnam and the USSR were colluding to establish "regional hegemony" over Hanoi's Indochina neighbors and possibly over all Southeast Asia, the closer links it sees emerging among Washington, Hanoi, and Manila are viewed in this scenario as potentially

presenting a military coalition designed to offset China's growing military presence in the South China Sea. The existing U.S. mutual defense treaty with Manila is seen as providing expanding access to RP military bases and, Beijing fears, presumably allowing a buildup of logistic support for American regional military operations. U.S. port visits and closer political links with the SRV are suggesting a level of cooperation that would include improving combined operational capabilities between Vietnamese and U.S. forces. These developments could possibly lead to the United States gaining access to SRV military facilities, including its air bases, even as Hanoi improves its own military capabilities with acquisitions of advanced submarines and fighter aircraft from Russia. China's signaling is designed to indicate the seriousness with which Beijing views this strategic trend.

The United States finds its position in this scenario problematic for several reasons. It is not seeking to build a regional alliance against China. As part of its strategic "rebalancing" toward Asia, however, Washington seeks to assure regional friends and allies that the United States will maintain a strong regional military presence. An aspect of this strategy is to guarantee freedom of navigation through the South China Sea. In support of this objective, at the time Beijing initiates signaling China's concerns, the USS *George Washington* carrier strike group (CSG) has been scheduled to conduct a FON exercise in the South China Sea. As part of U.S. regional assurance policy, Vietnamese political and military officials have been invited aboard for a couple of days to observe flight operations. A long-planned, combined exercise between U.S. and Philippine marines is also about to get underway. For the purpose of illustrating the full range of Chinese signaling behavior, we postulate disagreements among U.S. policymakers about whether to cancel or postpone these activities in response to Chinese concerns or whether such actions would be interpreted as signals of weakness that would damage the U.S. reputation in Beijing and in the region. In the scenario, these policy disagreements delay clear substantive U.S. response to Chinese signals, prompting policymakers in Beijing to move up the signaling ladder.

Beijing's signaling begins at the lower level of authority with a commentary by a PLAN political commissar at the South Sea Fleet Yulin naval base on Hainan Island. His commentary includes a military assessment of developments in the South China Sea stressing the increasing military cooperation between the United States and the naval forces of the Philippines and Vietnam. He details the port calls made by U.S. naval ships to Vietnam and the Philippines as part of his assessment. This review is paralleled by a *Liberation Army Daily* article on the same topic stressing China's commitment to cooperation and stability in the South China Sea even as it safeguards its national maritime rights. During a visit by the commander of the U.S. Pacific Command (USPACOM) to PLAN headquarters, China's naval commander makes similar points

in his discussion stressing the need for cooperation between the U.S. and Chinese navies and with their regional counterparts. This first step is signaling the United States that China's maritime interests, particularly in the South China Sea, are a matter of importance requiring discussion between the two defense establishments.

Failing to receive a U.S. response in a week, China takes the next step upward by including the Ministry of Foreign Affairs (MFA) in the signaling process. At a weekly press conference, an MFA spokesperson includes a comment about the importance of China's national maritime rights in terms of sovereignty and access to maritime resources. Sovereignty and resources are the core of these remarks, not security or defense issues. *Liberation Army Daily* carries a signed article discussing what was said to be a regular PLAN exercise in the South China Sea and the importance of a powerful navy in defending China's maritime interests. Less emphasis is placed on the need for regional cooperation to ensure maritime security.

Not receiving any positive U.S. response, the next step up is taken by Beijing. An MFA statement and a *People's Daily* commentator article focus on China's maritime interests and the need to avoid military tensions through diplomacy and discussion to ensure that each party's interests are understood. To this end, where military tensions emerge the parties should agree to high-level discussions designed to ease if not eliminate the tensions.

With no definite U.S. response to the suggestion that a meeting should be held at a high enough level where Beijing can express its concerns directly, China's signaling escalates with more direct language. A vice foreign minister expresses China's intent to defend its sovereignty and maritime interests against any threats. This statement is paralleled by a *People's Daily* contributing editor article assessing U.S. strategy in the South China Sea. The article emphasizes what it sees as U.S. efforts opposing China's maritime rights and sovereignty by providing support, including military support, to Vietnam and the Republic of the Philippines. Both are declared to be pressing unwarranted and illegal claims against China's well-established and legal sovereignty rights in the South China Sea. This strategy is declared as undermining the tranquility of the South China Sea and creating unnecessary regional military tensions. Moreover, the United States is defined as an outside power creating regional tensions to serve its own hegemonic objectives through power politics. Unless the United States agrees to a high-level meeting with China to resolve their differences, it will have to accept the consequences of its ill-conceived strategy.

Just as the United States resolves its dilemmas and is about to propose a meeting at the Under Secretary of State and Under Secretary of Defense level, China takes the next escalatory step in its signaling strategy. The Minister of Foreign Affairs calls a press conference where he first declares that China's exercise of restraint in the face of U.S. provocative actions in the

South China Sea should not be viewed as weakness. China's forbearance should be recognized as demonstrating its commitment to building and sustaining a tranquil regional security environment. However, there is a limit to China's forbearance and restraint in the face of U.S. power politics seeking to maintain its hegemonic position. China has already urged the United States to agree to a senior-level meeting where their respective interests and policies can be discussed and differences resolved. Failure to schedule such a meeting will leave China no choice but to reinforce its military deployments in the region and the South China Sea to counter U.S. power politics and military strategy. This is not China's preferred choice, but a just response against U.S. bullying and power politics. Shortly after the Minister of Foreign Affairs makes his statement, China's most senior general, a vice-chairman of the CMC and a member of the Politburo, makes his own statement. He declares that the PLA is dedicated and prepared to defend China's sovereignty and national interests against all adversaries.

Comment

The signaling employed in this scenario reflects a basic pattern Beijing has demonstrated since its first signaling exercise in 1950 when China sought to deter U.S. forces from crossing the 38th parallel into North Korean territory. The core of these signaling patterns consists of the following:

- *Systematic integration of political and diplomatic action with military preparations as the signaling escalates through higher levels of authority.* Such preparations are often, if not always, overt and integrated into the political and diplomatic messages designed to deter the adversary from the course of action Beijing finds threatening.

- *Stating why China is justified in using military force should this prove necessary.* The message targets both domestic and international audiences. In essence, Beijing declares that China confronts a serious threat to its security and interests that if not terminated will require the use of military force.

- *Asserting that the use of military force is not Beijing's preferred resolution to the threat China faces, but one that will be forced upon it should the adversary not heed the deterrence warnings sent*. In short, Beijing's signaling strategy seeks to grant China the moral high ground in the emerging confrontation. Such argument supports China's self-identification as a uniquely peaceful country that employs military force only in defense

when provoked by adversaries threatening China's security or sovereignty. Presumably, Beijing believes that asserting the moral high ground in a confrontation can ease the international response to any military action China might take and thereby reduce the political costs of employing military force.

- *Emphasizing that China's forbearance and restraint should not be viewed as weakness and that China is prepared to employ military force should that be necessary.*

Appendix 1. Chronology of the 1978–1979 Sino-Vietnamese Border Crisis

Note: Beijing's calculus of warnings regarding the Sino-Vietnamese border that culminated in the PRC's "punitive" attack in February–March 1979 was embedded among Beijing's protests and statements over other issues in the broader Sino-Vietnamese tangle over regional power. The border warnings are therefore indicated in **bold type** *in the following chronology (appendix 1 only) to distinguish them from Beijing's protests over other issues.*

Date	Leadership Statements	Official Statements	Authoritative Commentary	Other
1977				
12/31				Xinhua reports contending Vietnamese and Cambodian government statements on border clashes—first PRC media attention to escalating SRV (Socialist Republic of Vietnam)-DK (Democratic Kampuchea) dispute
1978				
4/30	Liao Chengzhi statement: first PRC public reference to SRV treatment of Hoa people			
6/9		FOREIGN MINISTRY STATEMENT on SRV expulsion of Hoa (Chinese) people; responds to May 27 SRV Foreign Ministry statement		

Date	Leadership Statements	Official Statements	Authoritative Commentary	Other
1978				
6/10			*People's Daily* COMMENTATOR ARTICLE on Hanoi provoking SRV-Cambodia border crisis	
6/15				PRC ships *Minghua* and *Changli* depart Guangzhou to pick up "victimized Chinese nationals" from Hanoi and Ho Chi Minh City
7/3		PRC GOVERNMENT NOTE to Hanoi suspends economic and technical aid to SRV		
7/11			*People's Daily* COMMENTATOR ARTICLE links SRV "persecution" of Hoa people and SRV instigation of Viet-Cambodian border tensions to Hanoi's "expansionist" ambitions	**Joint Guangxi-Yunnan communiqué protests SRV driving Hoa people across border, establishes regulations for entry of Hoa people into PRC along SRV border**
7/15		PRC chargé at Hanoi embassy says talks over Hoa people deadlocked in 16th session		

Date	Leadership Statements	Official Statements	Authoritative Commentary	Other
1978				
7/16			*People's Daily* COMMENTATOR ARTICLE on Hanoi stirring up anti-China fever	
7/19		Ministry of Foreign Affairs (MFA) note to Hanoi proposes vice foreign ministerial talks on Hoa people issue		
7/22			*People's Daily* COMMENTATOR ARTICLE on SRV ingratitude for PRC aid	
7/25		PRC Embassy "strong protest" over SRV slander of embassy		
7/26 and 7/29				**PRC border officials in Guangxi and Yunnan protest continuing SRV pushing Hoa people across border**
8/1			*Red Flag* COMMENTATOR ARTICLE attacks Soviet complicity in SRV's anti-China activities	
8/8		1st session of PRC-SRV vice foreign ministerial talks open in Hanoi		**Guangxi border officials protest Peilun Bridge incident**

Date	Leadership Statements	Official Statements	Authoritative Commentary	Other
1978				
8/9		**PRC Hanoi chargé "strong protest" rejects SRV protest over August 8 border incident**		
8/14		**PRC FOREIGN MINISTRY Asia Department delivers "strong protest" over August 10 border incident: "infringed" Chinese sovereignty**		
8/19		**PRC Vice Foreign Minister Zhong Xidong puts forward four-point proposal at 3rd session of Hanoi talks**		
8/25		**PRC Vice Foreign Minister Zhang Haifeng delivers a "strong protest" to SRV envoy on August 25 "provocative incident" at Youyi Pass, an "extremely serious step" and "new crime" in effort to sabotage ongoing Sino-Viet talks in Hanoi**		

Date	Leadership Statements	Official Statements	Authoritative Commentary	Other
1978				
8/25 (cont.)		**PRC vice foreign minister Zhong Xidong protests same at 4th session of Hanoi talks**		
8/29		**PRC chargé in Hanoi issues "strong protest" over August 12 Guangxi border incident**		
9/4		**PRC State Council Overseas Chinese Office statement denounces SRV's "engineering" August 25 Youyi Pass incident**	***People's Daily* COMMENTATOR ARTICLE on SRV's escalating anti-China activities**	
9/5		**FOREIGN MINISTRY Asia Department Director Shen Ping delivers "strong protest" over SRV suspending rail traffic at Yunnan border**		
9/7		Vice Foreign Minister Zhong Xidong complains about lack of progress at 5th session of Hanoi talks		

Date	Leadership Statements	Official Statements	Authoritative Commentary	Other
1978				
9/12		Vice Foreign Minister Zhong Xidong puts forward new proposals at 6th session of Hanoi talks		
9/19		Vice Foreign Minister Zhong Xidong complains of SRV bad faith at 7th session of Hanoi talks		
9/26		Vice Foreign Minister Zhong Xidong suspends talks at 8th session of Hanoi talks; departs for Beijing on 27th		
10/20				Xinhua reports Le Duan inspecting SRV-Cambodia border zone
10/26		**FOREIGN MINISTRY "strong protest" over repeated SRV border incidents in September and October**		

Date	Leadership Statements	Official Statements	Authoritative Commentary	Other
1978				
11/3				Soviet Union-SRV security treaty signed; Xinhua reports SRV preparing "large-scale aggression" against Cambodia
11/7		**PRC FOREIGN MINISTRY "strong protest" over November 1 "extremely serious bloodshed incident" on border; notes Beijing has so far "exercised the greatest restraint and forbearance"; and warns that Hanoi should not mistake Beijing's restraint as "weakness and submissiveness"**		
11/8	DENG XIAOPING in Bangkok denounces USSR-SRV treaty and Soviet global and SRV regional hegemonism; "we will attach importance" to this event			

Date	Leadership Statements	Official Statements	Authoritative Commentary	Other
1978				
11/10			***People's Daily*** **EDITORIAL entitled "What are the Vietnamese Authorities up to?" warns that November 1 incident shows that Hanoi's "arrogant hostility to the Chinese people" has become "quite intolerable"; links Vietnamese border provocations to Soviet support for Vietnamese aggression in Cambodia and signing of Soviet-Vietnamese alliance; and "sternly" warns Hanoi to pull back from Chinese territory and "not to turn a deaf ear to China's warnings." "How far will you go? We will wait and see"**	**Xinhua reports continuing SRV border intrusions**
12/6				Xinhua reports Hanoi setting up Cambodian liberation front body
12/10				**Xinhua reports new SRV border intrusions**

Date	Leadership Statements	Official Statements	Authoritative Commentary	Other
1978				
12/11	**Guangxi CCP chief Zhao Xiaoguang speech at Nanning rally denounces continuing SRV border intrusions; warns that China will "certainly counterattack" any enemy's encroachment**			
12/13	**Vice Premier Li Xiannian tells Thai delegation that "China's forbearance has limits and the Vietnamese authorities are deluding themselves by thinking that we are weak and can be bullied"**	**FOREIGN MINISTRY "strong protest" over "incessant" Vietnamese encroachments and provoking "serious incidents of bloodshed"; charges that Hanoi has "turned a deaf ear" to Beijing's repeated protests; warns that "there is a limit to China's forbearance and restraint" and Hanoi must bear responsibility for the consequences if provocations continue**		

Date	Leadership Statements	Official Statements	Authoritative Commentary	Other
1978				
12/16			*People's Daily* EDITORIAL on USSR-SRV collusion in planned aggression in Cambodia, Southeast Asia	
12/20				**Xinhua reviews SRV border intrusions in Guangxi since August; notes PLA "did not return fire" even when SRV troops opened fire**
12/24		**FOREIGN MINISTRY "strong protest" over December 23 SRV border intrusion in Guangxi, notes Chinese militia "compelled to return fire in self defense"; FOREIGN MINISTRY "strong protest" over December 10–16 Guangxi border intrusions**		**Xinhua reports repeated September–December SRV border intrusions, firing at people in Yunnan**
12/25			***People's Daily* EDITORIAL entitled "Our Forbearance is Limited" reviews SRV aggression against China and states that Hanoi "has gone far enough"; (cont.)**	

Date	Leadership Statements	Official Statements	Authoritative Commentary	Other
1978				
12/25 (cont.)			**China "will not allow itself to be bullied by others," will "certainly counterattack if attacked," and "means what it says"; if Hanoi continues, it "will meet the punishment it deserves"; "don't complain later that we did not give you clear warning in advance"**	SRV invasion of Cambodia begins
12/28	**LI XIANNIAN at overseas Chinese affairs conference warns that SRV provocations have become "intolerable" and that if Hanoi does not cease, it "will meet the punishment it deserves"**			
1979				
1/5	DENG XIAOPING in meeting with U.S. journalists denounces SRV invasion of Cambodia, pledges "various forms of material assistance" to Phnom Penh			

Date	Leadership Statements	Official Statements	Authoritative Commentary	Other
1979				
1/7		PRC GOVERNMENT STATEMENT denounces SRV invasion of Cambodia, pledges support to Phnom Penh		
1/12				**Xinhua report reviews SRV border intrusions in early January, firing on Chinese people**
1/14		PRC GOVERNMENT STATEMENT denounces SRV continuing invasion of Cambodia; China "will do its utmost" to support Phnom Penh		
1/19		**PRC FOREIGN MINISTRY note denounces SRV stoppage of border rail traffic**		
1/20				**Xinhua reports new SRV border intrusions in Guangxi**

Date	Leadership Statements	Official Statements	Authoritative Commentary	Other
1979				
1/31	**DENG XIAOPING at Washington press conference declares that "we mean what we say" and that Hanoi must be taught "some necessary lessons"**			
2/1				**Xinhua reports new SRV border intrusions, Chinese border guards "firing back in self defense and giving the intruders due punishment"; says SRV actions have "aroused the deep indignation of the Chinese army and people"**
2/11	**LI XIANNIAN in talks with Pakistani defense minister warns Hanoi "not to turn a deaf ear to what China has said"**			

Date	Leadership Statements	Official Statements	Authoritative Commentary	Other
1979				
2/17		**PRC GOVERNMENT STATEMENT declares PRC forces have been "driven beyond forbearance" and "forced to counterattack"; PRC does not want "an inch" of SRV territory but neither will it tolerate "wanton incursions"; pledges to reopen negotiations if Hanoi ceases provocations; attack on northern SRV begins**		
2/18			***People's Daily* EDITORIAL entitled "Rise in Counterattack in Defense of Frontiers" declares that in Hanoi "restraint and forbearance were regarded as invitations to bullying" and "advice and warnings fell on deaf ears"; calls PRC counterattack a "just action in defense of our frontier"**	

Appendix 2. Chronology of the 1961–1962 Sino-Indian Border Crisis

Date	Official Statements	Authoritative Commentary
1961		
8/12	Ministry of Foreign Affairs (MFA) protests repeated Indian encroachments on border since May 19	
10/7	MFA protests repeated Indian encroachments on border	
11/2	Two MFA "strong protests" of new encroachments and violation of airspace; New Delhi should not take Beijing's "restraint and tolerance as weakness"	
11/30	MFA note urges New Delhi to cease "unlawful actions," otherwise it must be "held responsible for new tensions"	
12/6	MFA note discloses several previous protests; says Beijing has "exercised self restraint" in face of Indian "war clamor"	
12/7		*People's Daily* EDITORIAL advises that New Delhi will be held responsible for new border tensions
1962		
1/24	MFA "serious protest" against new Indian air intrusions; New Delhi "mistaken if it thinks it can profit from unscrupulous provocations" against Chinese border posts	
2/26	MFA note renews call for negotiation of boundary dispute	
3/22	MFA note again calls for negotiation of boundary dispute	
4/21	MFA "serious protest" on new Indian border intrusion	
4/30	MFA "strongest protest" over Indian troops establishing posts on PRC territory; warns that if they are not withdrawn, PRC border guards would be "compelled to defend themselves"	

Date	Official Statements	Authoritative Commentary
1962		
5/11	MFA "serious protest" of new intrusion and "provocative firing" by Indian troops in eastern sector; notes that PRC forces "firmly maintained a coolheaded attitude of self restraint"; situation on border "very grave"	
6/18	PRC Government "strong protest" of "atrocity" in which Indian troops shot four Tibetans; demands compensation and end to such incidents	
6/28	PRC Government "serious" protest of 59 Indian air intrusions in May	
7/8	PRC "strongest" protest of "serious intrusion" of Indian troops into Xinjiang; commends PRC forces' self-restraint but warns that China "will never yield to deeper advances by India, nor will China give up its right to self defense when attacked"	
7/9		*People's Daily* EDITORIAL, entitled "The Indian Government Should Rein in at the Brink of the Precipice," warns that China will exercise right of self-defense in the face of unprovoked attacks
7/13	MFA "strongest protest" says New Delhi "turning a deaf ear" to past protests; warns that PRC has exercised forbearance and self-restraint but will be compelled to defend itself if Indian forces provoke an armed clash	
7/21		*People's Daily* observer article, entitled "The Indian Authorities Should Not Miscalculate," warns that if India continues to provoke armed clashes and compels Chinese forces to defend themselves, it will be "lifting a great stone only to drop it on its own foot"

Date	Official Statements	Authoritative Commentary
1962		
7/22	MFA "strongest protest" over clash in Xinjiang in which PRC forces were compelled to defend themselves; while China has exercised "greatest forbearance and restraint," it could not "sit idly by"	
8/4	MFA note calls for border talks as soon as possible	
9/7		*People's Daily* EDITORIAL calls on New Delhi to cease border provocations and enter negotiations
9/13	MFA note proposes opening border talks on October 15; notes that New Delhi has rejected Beijing's August 4 call for talks	
9/21	PRC Government "most serious and strongest" protest on new Indian border clashes	
9/22		*People's Daily* EDITORIAL entitled "Is This Tolerable?" warns that "Beijing's patience is limited" and that Beijing will be forced to "take necessary measures" to protect its border guards if New Delhi does not cease its provocations; New Delhi "cannot now say that warning has not been given in advance"
10/3	MFA note reiterates call for border talks to open on October 15; notes continuing clashes	
10/6	MFA note protests new "incidents of bloodshed" in the eastern sector, says New Delhi "continuing to play with fire"	

Date	Official Statements	Authoritative Commentary
1962		
10/11	MFA "strongest and most serious protest" over October 9 clash, killing several PRC troops; warns that if Indian forces do not cease, Chinese troops "will surely act in self defense"; second "strongest and most serious" protest over new Indian attacks in Tibet; warns that if New Delhi "does not rein in before the precipice and continues to spread the flames of war," it will bear all the consequences	
10/13	MFA "strong protest" over new intrusions; notes Indian side moving more troops "in preparation for war"	
10/14		*People's Daily* EDITORIAL entitled "Mr. Nehru! It's Time to Pull Back from the Brink of the Precipice!"
10/17	Two MFA "serious" protests over continuing intrusions	
10/20	MFA "most urgent, most serious and strongest" note declares that New Delhi has refused to negotiate and launched broad attacks on PRC territory and so China has "no choice but to rebuff these frenzied attacks resolutely"; Ministry of National Defense spokesman states that "all-out attacks" by Indian forces compelled PRC forces to "strike back" and "recover territory occupied by Indian troops"	

Appendix 3. PRC Signaling Over Taiwan: 1991, 1995, 1999, 2003–2004

1991: Taiwan Debate Preceding National Assembly Elections

Date	Leadership Statements	Official Statements	Authoritative Press Comment	Other
1991				
5/6				Long Liaowang article describes rising Taiwan independence (TI) issue in Taiwan's politics
6/3			*People's Daily* COMMENTATOR ARTICLE warns TI is "a dangerous path"; warns advocates to "rein in at the brink of the precipice" and by "playing with fire" one will "get burned"	
7/1	JIANG ZEMIN Chinese Communist Party (CCP) anniversary speech notes that rise of TI "calls for special attention and vigilance"			

Date	Leadership Statements	Official Statements	Authoritative Press Comment	Other
1991				
7/9		State Council (SC) Taiwan Affairs Office (TAO) spokesman TANG SHUBEI denounces Legislative Yuan (LY) proposal to join United Nations as Republic of China (ROC), notes some Kuomintang (KMT) legislators support; requires "high vigilance"		
8/25				Democratic Progressive Party (DPP) meeting on constitutional revision to change name of ROC to Taiwan
9/7			*People's Daily* COMMENTATOR ARTICLE blasts DPP draft constitution	
9/12		MFA spokesman at weekly briefing denounces TI advocates, Ramsey Clark remarks as "foreign interference"		

Date	Leadership Statements	Official Statements	Authoritative Press Comment	Other
1991				
9/30	LI PENG national day toast says PRC "will never tolerate" Taiwan independence			
10/7				*Wen Wei Po* EDITORIAL chides KMT leaders for accommodating DPP TI demands; warns Beijing will not "stand idly by and remain indifferent"
10/9	PRC President YANG SHANGKUN warns those seeking to split China: Beijing "will not stand idly by"; should not make "wrong appraisal"; "those who play with fire will perish by fire"			
10/10			*People's Daily* EDITORIAL on PRC national day warns Beijing "will not tolerate" TI advocates colluding with "foreign powers"	
10/13				Zhongguo Xinwenshe reports DPP adopting TI plank in party constitution

Date	Leadership Statements	Official Statements	Authoritative Press Comment	Other
1991				
10/15		SC TAO spokesman TANG SHUBEI statement condemning DPP constitution plank on TI: "If they turn a deaf ear" to PRC warnings, Beijing "will not stand idly by"		
10/17			*People's Daily* COMMENTATOR ARTICLE on 20th anniversary of PRC entry into UN: "we resolutely oppose any attempt to create 'two Chinas' or 'one China and one Taiwan'"	
11/6-7	Vice President WU XUEQIAN meets Straits Exchange Foundation (SEF) delegation in Beijing, calls for talks			
12/11	JIANG ZEMIN speech on 55th anniversary of Xian Incident: renews proposal for talks; urges TI advocates "not to make a mistaken assessment," turn back			

Date	Leadership Statements	Official Statements	Authoritative Press Comment	Other
1991				
12/16	Vice President WU XUEQIAN at ARATS (Association for Relations Across the Taiwan Strait) founding meeting applauds some Taipei officials for taking stronger stand against TI, acts to speed up cross-strait ties			Xinhua reports founding of ARATS
12/22				Zhongguo Tongxunshe reports KMT dominance, TI rejection in National Assembly elections

1995: Lee Teng-hui U.S. Visit

Date	Leadership Statements	Official Statements	Authoritative Press Comment	Other
1995				
5/22				Xinhua reports U.S. decision to grant Lee Teng-hui (LTH) a visa
5/23	VP/MFA Qian Qichen lodges "strong protest" with Ambassador Roy; will result in "grave consequences" unless U.S. reverses decision	MFA STATEMENT warns relations may "retrogress" and cause "severe damage" to relations		

Date	Leadership Statements	Official Statements	Authoritative Press Comment	Other
1995				
5/24		National People's Congress (NPC) Foreign Affairs Committee statement: U.S. entirely responsible for consequences; Chinese People's Political Consultative Conference (CPPCC) Foreign Affairs Committee statement		
5/25		MFA spokesman Shen Guofang says SC Li Guixian, PLA Air Force Deputy Commander Yu Zhenwu cutting U.S. visits short		May 25–30: Taiwan forces hold anti-amphibious landing exercises on Taiwan coast
5/26		MFA spokesman Shen Guofang says Minister of National Defense (MinND) Chi Haotian U.S. visit postponed	*People's Daily* COMMENTATOR ARTICLE, "Serious and Dangerous Retrogression," says PRC "absolutely will not tolerate" U.S. violating sovereignty, "will resolutely defend" its national interests	Xinhua reports ARATS Vice President Tang Shubei departing for Taipei to set 2nd summit between SEF and ARATS; says Wang-Koo talks to be in mid- or late July

Date	Leadership Statements	Official Statements	Authoritative Press Comment	Other
1995				
5/28		MFA spokesman Shen Guofang announces postponement of Missile Technology Control Regime (MTCR) talks and visit by U.S. Arms Control and Disarmament Agency chief		
5/29				*Wen Wei Po* (Hong Kong) EDITORIAL notes PRC responses so far in diplomatic arena; other areas could be affected; in Taipei, Tang Shubei announces agreement on Wang-Koo talks for July 20
6/1		MFA spokesman Chen Jian warns "serious damage" to PRC-U.S. relations if U.S. does not reverse Lee Teng-hui visa		

Date	Leadership Statements	Official Statements	Authoritative Press Comment	Other
1995				
6/2				Winston Lord announces Clinton administration's renewal of "most favored nation" status for PRC
6/3				*Ta Kung Pao* (Hong Kong) editorial urges U.S. Government "not to miscalculate" and "turn a deaf ear" or PRC will "react further"
6/6		MFA spokesman Shen Guofang calls U.S. visa for Lee a "grave affair," says PRC will "react further" if not reversed		
6/8–12				Lee Teng-hui visit to Los Angeles, Ithaca, Anchorage
6/8				Xinhua publishes "Ai Zhonghua" article stating PRC will "adopt all necessary measures" to defend sovereignty

Date	Leadership Statements	Official Statements	Authoritative Press Comment	Other
1995				
6/9		PRC Ambassador Li Daoyu meets Clinton: U.S. action has "seriously damaged" relations	*People's Daily* COMMENTATOR ARTICLE says U.S. has "brought serious consequences" to relations and will "pay a price"	
6/10				*People's Daily* "Bu Wen" article entitled "U.S. Is Playing with Fire," says Taiwan issue is a "powder keg"—"be careful!"
6/16		MFA spokesman Shen Guofang announces Ambassador Li Daoyu called home "for consultations"; SC Taiwan Affairs Office spokesman announces 2nd Wang-Koo talks postponed		
6/17				Xinhua commentary says PRC-U.S. relations "at a crossroad," and "we will wait and see" which way U.S. wants to go

Date	Leadership Statements	Official Statements	Authoritative Press Comment	Other
1995				
7/21				PRC begins missile firings into East China Sea
7/31	Minister of National Defense CHI HAO-TIAN Army Day toast says PRC will "not give up use of force" or "stand idly by" in face of foreign interference in Taiwan issue			

1999: Lee Teng-hui on Cross-strait Exchanges as "Special State-to-State Relations"

Date	Leadership Statements	Official Statements	Authoritative Press Comment	Other
1999				
7/9				Lee Teng-hui says cross-strait ties a "special state-to-state" relationship in *Deutsche Welle* interview
7/11		Central Committee (CC)/State Council (SC) Taiwan Affairs Office spokesman on Lee statement: "We solemnly warn Taiwan splittist forces to pull back before it is too late and stop playing with fire"		

Date	Leadership Statements	Official Statements	Authoritative Press Comment	Other
1999				
7/12		MFA spokesman Zhu Bangzao urges Lee Teng-hui to "size up the situation soberly, rein in at the brink of the precipice" and cease all separatist activities; has "gone too far on the dangerous road of playing with fire"; ARATS President Wang Daohan says Lee Teng-hui's statement "undermines the foundation" of cross-strait exchanges		
7/13		ARATS Vice-President Tang Shubei elaborates on Lee Teng-hui undermining basis for cross-strait exchanges		

Date	Leadership Statements	Official Statements	Authoritative Press Comment	Other
1999				
7/14			People's Daily COMMENTATOR ARTICLE denounces Lee Teng-hui's "secessionist ambition"; expresses confidence in people's support for unification	Zhongguo Xinwenshe interview with Institute of Taiwan Studies researcher Li Jiaquan: Lee Teng-hui's statement "a declaration of war against peaceful unification and pushes cross-strait relations to the brink of war"
7/15		MFA spokesman Zhang Qiyue urges Taiwan authorities to "size up the situation soberly, rein in at the brink of the precipice," and cease splittist activities; CC/SC Taiwan Affairs Office Director CHEN YUNLIN: Lee Teng-hui's remarks "destroyed the foundation" of the one-China principle		
7/17				Xinhua long article by "GUO TAIWEN" on meaning of Lee Teng-hui's "two-state" theory

Date	Leadership Statements	Official Statements	Authoritative Press Comment	Other
1999				
7/18		CPPCC Hong Kong/Macao/ Taiwan/Overseas Chinese (OC) Committee statement: Lee Teng-hui "should stop playing with fire"		
7/20				*Wen Wei Po* cites Nanjing Military Region Deputy Chief of Staff Su Jing comments on Fujian military exercise, says Lee Teng-hui will "ruin himself by playing with fire" and will "drown in the ocean of people's war"
7/21		Xinhua reports ARATS forum denouncing Lee Teng-hui for destroying basis for cross-strait exchanges	*People's Daily* COMMENTATOR ARTICLE on upholding "one-China principle"	Xinhua Commentator on Lee Teng-hui "doomed to be pinned on the pole of humiliation in history"

Date	Leadership Statements	Official Statements	Authoritative Press Comment	Other
1999				
7/25	Xinhua reports Foreign Minister TANG JIAXUAN denouncing Lee Teng-hui "splittism" in Singapore talks with U.S. Secretary of State Albright; stresses U.S. abiding by three communiques critical to stability in the Taiwan Strait			Xinhua Commentator on Lee Teng-hui's "sophistry"; must "rein in before the brink of the precipice and cease all splittist activities"
7/26			*People's Daily* COMMENTATOR ARTICLE on Lee Teng-hui's removal of basis for cross-strait exchanges	
7/27	PLA Chief of General Staff FU QUANYOU says Lee Teng-hui "lifting a great rock only to drop it on his own feet"; PLA has "determination and strength" to defend China's sovereignty			
7/29			*People's Daily* COMMENTATOR ARTICLE warns Taipei to "rein in at the brink of the precipice," restore basis for cross-strait ties	

Date	Leadership Statements	Official Statements	Authoritative Press Comment	Other
1999				
7/30		Xinhua reports ARATS rejecting Koo Chen-fu letter responding to WANG DAOHAN call on SEF to clarify its position		
7/31	Minister of Defense CHI HAOTIAN warns Taipei "not to under-estimate" PLA resolution to defend China's sovereignty			*Wen Wei Po* (Hong Kong) says Wang Daohan will not visit Taipei until it retracts Lee Teng-hui position
8/1			*People's Daily* and Xinhua SPECIAL COMMENTATOR ARTICLE blasts Koo Chen-fu speech "clarifying" Lee Teng-hui view; *Seeking Truth* COMMENTATOR ARTICLE calls on Lee Teng-hui to "ward off disaster at the critical moment"	*Wen Wei Po* (Hong Kong) article by Li Jiaquan dissects Koo Chen-fu response on "clarifying" Lee Teng-hui position
8/2				Xinhua Commentator blasts Koo Chen-fu speech responding to Wang Daohan demand for clarification

Date	Leadership Statements	Official Statements	Authoritative Press Comment	Other
1999				
8/3				Ta Kung Pao (Hong Kong) cites PLA sources that Fujian PLA forces on alert; 3-stage military exercises like 1995–1996 "likely"
8/4		CC & SC TAO director's speech rebutting 1 Aug Taiwan Mainland Affairs Council (MAC) explanation of "two-state" theory		
8/9				*Wen Wei Po* (Hong Kong) editorial raises possibility of blockade
8/10			Long *People's Daily* OBSERVER ARTICLE on Lee Teng-hui's two-state theory; blasts July 30 Koo Chen-fu speech, August 1 MAC explanations as showing Lee Teng-hui not willing to "stop before the brink of the precipice"	*Ta Kung Pao* (Hong Kong) editorial notes warnings of CHI HAOTIAN, ZHANG WANNIAN, sees prospect of war

Date	Leadership Statements	Official Statements	Authoritative Press Comment	Other
1999				
8/16				Xinhua reports various PLA elements denounce Lee Teng-hui's two-state view; pledge "not to sit idly by" to preserve territorial integrity
8/18		Xinhua repots TAO office directors meeting reiterating readiness to open talks if Taipei retreats from two-state position	*Jiefangjun Bao* COMMENTATOR ARTICLE blasts two-state theory; says PLA would rather lose 1,000 men than an inch of territory	
8/19		UN representative QIN HUASUN meets UN deputy secretary-general on Nicaraguan proposal to seat Taipei; Amb. LI ZHAOXING blasts "some U.S. politicians" urging that U.S. protect Taiwan by force	*Jiefangjun Bao* COMMENTATOR ARTICLE #2 on Lee Teng-hui's two-state theory	

Date	Leadership Statements	Official Statements	Authoritative Press Comment	Other
1999				
8/20		MFA spokesman ZHU BANGZAO calls for the U.S. "to make a clear commitment to not supply TMD" to Taiwan so as "not to undermine peace and stability" in the Taiwan Strait		
8/21				*Wen Wei Po* (Hong Kong) article by NDU professor on likely military alternatives in event of Taiwan Strait war; Zhongguo Tongxunshe report on accuracy of PRC cruise missiles, other capabilities in Taiwan conflict; "The PLA will teach Taiwan a lesson" and "cause heavy losses"
8/23				*Liaowang* commentator article warns Lee Teng-hui "not to turn a deaf ear"

Date	Leadership Statements	Official Statements	Authoritative Press Comment	Other
1999				
8/26				Zhongguo Xinwenshe interview with 2nd Artillery engineer on PLA readiness to defend PRC sovereignty
8/27			*People's Daily* COMMENTATOR ARTICLE attacks new Lee Teng-hui remarks; notes Lee Teng-hui finds himself increasingly isolated internationally	
8/28	VP QIAN QICHEN warns Taipei "not to underestimate the firm determination" of PRC to uphold sovereignty; do not "lift a stone only to drop it on one's foot"			
8/31		CC TAO statement blasts KMT resolution endorsing Lee Teng-hui's two-state theory		
9/1				*People's Daily* runs long Li Jiaquan article on Taiwanization of KMT

Date	Leadership Statements	Official Statements	Authoritative Press Comment	Other
1999				
9/2		MFA spokesman Sun Yuxi blasts Lee Teng-hui pressing two-state theory in KMT platform, "pushing the Taiwan people nearer to the abyss of war," "playing with fire"		AFP reports PLA exercises off Xiamen
9/3	Chief of General Staff FU QUANYOU tells Uruguay guest PLA "will foil any conspiracy to split the mainland"			Xinhua reports PRC missile experts blast Lee Teng-hui, boast of new generation of missiles
9/4	JIANG ZEMIN in Bangkok calls Lee Teng-hui's two-state view "a dangerous step," reiterates PRC as "firm in its determination" to defend sovereignty			
9/5				*Guangzhou Daily* notes upcoming PLA exercises off Guangdong to "deflate Lee Teng-hui's arrogance"

Date	Leadership Statements	Official Statements	Authoritative Press Comment	Other
1999				
9/6	Chief of General Staff FU QUANYOU tells Czech army leader PLA backs PRC government stance on Lee Teng-hui's two-state theory, has "strong determination and sufficient strength" to defend sovereignty			
9/7	Minister of Defense CHI HAOTIAN tells Czech army leader Beijing will not give up use of force against Taiwan splittists	MFA spokesman Sun Yuxi urges U.S. officials not to say things that encourage Lee Teng-hui's "arrogance"	*People's Daily* COMMENTATOR ARTICLE blasts Lee Teng-hui's efforts over the decade to pursue two-state idea	
9/8	JIANG ZEMIN in Canberra says PRC will not give up use of force in event of Taiwan independence or foreign intervention in Taiwan issue		*People's Daily* 2nd COMMENTATOR ARTICLE attacks Lee Teng-hui claim that public supports his two-state theory	

Date	Leadership Statements	Official Statements	Authoritative Press Comment	Other
1999				
9/9	FM TANG JIAXUAN meets Secretary of State ALBRIGHT in Canberra, calls on U.S. not to encourage Lee Teng-hui's "arrogance," nor supply theater missile defense (TMD)			Zhongguo Xinwenshe reports Academy of Military Science (AMS) researcher Wang Baoqing stating that "there is a limit to Beijing's patience" on unification; PRC has military superiority because of missiles; U.S. may intervene but will ultimately retreat
9/10	Reports ZHANG WANNIAN observing PLA "joint landing" exercises off Zhejiang and Guangdong in early September; PLA keeping a "close eye" on developments, "ready to crush" separatist acts			
9/11	JIANG ZEMIN in Auckland reiterates Beijing will not renounce use of force to defend sovereignty		*People's Daily* 3rd COMMENTATOR ARTICLE blasts Lee Teng-hui's two-state theory	*Liberation Army Daily* commentary on why PRC will not renounce use of force; *Wen Wei Po* (Hong Kong) on significance of recent joint exercises

Date	Leadership Statements	Official Statements	Authoritative Press Comment	Other
1999				
9/13	*Ta Kung Pao* reports CMC RESOLUTION on mobilizing for war			
9/14			*People's Daily* COMMENTATOR ARTICLE, "Lee Teng-hui Is Pushing Taiwan to Disaster," says cross-strait relations "at a vitally important moment"; PRC will not renounce use of force; prospect of peaceful unification "in danger of being wiped out"; "Chinese people keep their word" and Lee Teng-hui will suffer "fatal attacks"	
9/15		ARATS Vice Chairman TANG SHUBEI in Los Angeles warns "a small number of anti-China forces in the U.S. not "to be drawn into . . . a head-on collision with China" over Lee Teng-hui's splittism	*People's Daily* 4th COMMENTATOR ARTICLE on Lee Teng-hui's two-state theory	

Date	Leadership Statements	Official Statements	Authoritative Press Comment	Other
1999				
9/16		MFA spokesman Sun Yuxi notes United Nations General Assembly rejection of effort by "a small number of countries" to seat Taiwan	*People's Daily* 5th COMMENTATOR ARTICLE on Lee Teng-hui's two-state theory's "trouble-making" in the international community	
9/20				*Wen Wei Po* (Hong Kong) article on PLA preparations for war against Taiwan
9/23	Foreign Minister TANG JIAXUAN tells Secretary ALBRIGHT that JIANG-CLINTON meeting in Auckland produced "positive and constructive results"; now need "concrete actions"			
9/30	Premier ZHU RONGJI national day toast notes campaign against Lee Teng-hui's two-state theory; pledges aid to Taiwan earthquake victims			
10/15				SEF Chairman Koo Chen-fu renews invitation to ARATS Chairman WANG DAOHAN to visit Taipei

Date	Leadership Statements	Official Statements	Authoritative Press Comment	Other
1999				
10/16		ARATS deputy ZHANG JINCHENG rejects Koo invitation as "insincere" in absence of retraction of Lee Teng-hui two-state view		
10/25	JIANG ZEMIN interview with *Le Figaro* says PRC "will not sit idly by" at attempts to split China; but renews Beijing interest in peaceful approach			

2003–2004 Taiwan Referendum Law

Date	Leadership Statements	Official Statements	Authoritative Press Comment	Other
2003				
3/26		SC TAO spokesman Zhang Mingqing blasts Legislative Yuan push to adopt referendum law		
7/18		SC TAO deputy director WANG ZAIXI says push for referendum law "a very dangerous trend"		

Date	Leadership Statements	Official Statements	Authoritative Press Comment	Other
2003				
8/7	State Councilor (SClr) TANG JIAXUAN tells Taiwan media delegation Beijing "opposes people using a 'referendum' to split the country"			
8/26		SC TAO deputy director WANG ZAIXI again says push for referendum law "a dangerous trend"		
9/28				DPP and Chen Shui-bian (CSB) call for new constitution and 2006 referendum
10/2				Xinhua reports People's University professor denouncing CSB's call for new constitution, referendum a "provocative move" that is "extremely dangerous"
10/9		SC TAO STATEMENT blasts CSB's September 28 "provocative" remarks favoring TI referendum		

Date	Leadership Statements	Official Statements	Authoritative Press Comment	Other
2003				
10/13				*People's Daily* article by Sun Shengliang attacks CSB's push for TI referendum
10/24	HU JINTAO in Canberra says Beijing "will not tolerate" Taiwan independence			
10/28	SClr TANG JIAXUAN says PRC "will not tolerate" TI promotion "by any party or person in Taiwan"			
10/29		SC TAO spokesman Zhang Mingqing "firmly opposes" TI referendum; "Chinese nation will not tolerate" TI "in any form"		
10/30				*Ta Kung Pao* (Hong Kong) attacks CSB, mass rally promoting referendum on new constitution; notes U.S. "concern" about CSB abandonment of "4 nos.," reviewing Taiwan policy

Date	Leadership Statements	Official Statements	Authoritative Press Comment	Other
2003				
11/4				*Ta Kung Pao* (Hong Kong) reviews CSB's push for TI referendum, warns it will lead to an "extremely perilous situation and a catastrophe" for the Taiwan people
11/12		SC TAO spokesman Li Weiyi warns CSB is moving "closer and close to the brink of TI," will bring a "huge disaster"		
11/17		SC TAO spokesman says CSB and DPP efforts to push TI referenda "a very dangerous splittist act," calls on them to "rein in before the precipice"; otherwise, face a "head-on blow by 1.3 billion Chinese people"		
11/18		ARATS Chairman WANG DAOHAN says TI advocates pushing "situation in the Taiwan Strait to a dangerous brink"		

Date	Leadership Statements	Official Statements	Authoritative Press Comment	Other
2003				
11/19		SC TAO deputy WANG ZAIXI blasts referendum as "an extremely dangerous move"; if TI declared, "armed force will be hard to avoid"; "TI means war"		Zhongguo Xinwenshe reports AMS research director LUO YUAN says changing ROC constitution is a "bottom line for the mainland to resort to force"; urges CSB to "think twice"
11/20				*Ta Kung Pao* (Hong Kong) EDITORIAL notes remarks in recent days by TAO leaders "most strongly worded since CSB came to power; Taipei should "not misinterpret Beijing's words"; TI will lead to "war and disaster"
11/21		MFA spokesman Liu Jianchao calls on U.S. to honor commitments; "send no more wrong signals" regarding TI		

Date	Leadership Statements	Official Statements	Authoritative Press Comment	Other
2003				
11/23	Premier WEN JIABAO tells *Washington Post* editor PRC "will not sit idly by and do nothing" in face of referendum and TI efforts; urges U.S. side "to be crystal clear" in opposition to the referendum" and other CSB tactics			
11/26		SC TAO spokesman Zhang Mingqing states Beijing "will not stand idly by" in event of TI		
11/27				ROC Legislative Yuan passes watered-down version of referendum law
12/2		MFA spokesman Liu Jianchao notes recent U.S. statements affirming one-China principle, opposing referendum		
12/9	Premier WEN JIABAO meets BUSH in Washington, DC: affirms Beijing's "determination" to uphold national unity; notes Bush's commitment to one-China principle and opposition to TI			

Date	Leadership Statements	Official Statements	Authoritative Press Comment	Other
2003				
12/11		MFA spokesman Liu Jianchao reiterates November 11 Wen Jiabao, Bush statements		
12/17		SC TAO spokesman Li Weiyi calls CSB's call for a "defensive referendum" along with the March elections a "serious provocation" against Taiwan Strait peace		
12/25	HU JINTAO meets 200 Taiwan businessmen; affirms interest in cross-strait exchanges but says will not tolerate TI			
12/30		MFA spokesman Liu Jianchao applauds Tokyo statement against referendum, TI		
12/31		SC TAO spokesman Zhang Mingqing blasts CSB for stirring up anti-China feelings		Reports CSB signing referendum law

Date	Leadership Statements	Official Statements	Authoritative Press Comment	Other
2004				
1/3		SC TAO deputy WANG ZAIXI in Canberra says CSB's referendum vote, new constitution in 2006 means it seeks TI by 2008; PRC's "restraint has a bottom line"; will not "waver or compromise"		
1/14	CMC Vice Chairman CAO GANGCHUAN tells U.S. Chairman of the Joint Chiefs of Staff MYERS that "clearcut stand and resolution opposition" needed in face of TI activities; hopes U.S. "will play an active part in this"	SC TAO spokesman Li Weiyi: PRC "has firm resolve and necessary preparations" and "determination and confidence" to defend sovereignty		
1/15		SC TAO deputy WANG ZAIXI in New York tells 400 overseas Chinese three conditions under which PRC will use force (from February 2000 White Paper), adds that process cannot be set precisely; if Taipei makes "wrong judgment," timetable will be moved up		

Date	Leadership Statements	Official Statements	Authoritative Press Comment	Other
2004				
1/19	SClr TANG JIAXUAN at forum calls referendum "can only cause confrontation and animosity" and lead to "the brink of danger"			Long *Renminwang* article by Peng Weixue on CSB's March 20 referendum as a stepping-stone to TI
1/20		MFA spokesman KONG QUAN urges U.S. to keep its promise to oppose TI		
1/26	HU JINTAO in Paris reiterates PRC "will by no means allow anyone to separate Taiwan"			
1/30	WEN JIABAO meets U.S. Deputy Secretary of State ARMITAGE in Beijing, says Taiwan situation "very sensitive," hopes U.S. will explicitly oppose CSB referendum; Armitage affirms Bush statements			
2/4				Long *Renminwang* article by Peng Weixue says CSB seriously misjudges PRC stake in TI issue

Date	Leadership Statements	Official Statements	Authoritative Press Comment	Other
2004				
2/11		SC TAO spokesman Zhang Mingqing urges Taiwan people, international community to recognize "dangers caused by the adventurist activities of TI advocates"		
2/17	CMC VC CAO GANGCHUAN reiterates "willingness and strength" to "guarantee unification"			
2/25		SC TAO spokesman Li Weiyi calls referendum "very harmful," Beijing "watching developments closely"		
2/27		NPC spokesman Jiang Enzhu blasts referendum as "immoral" CSB campaign tactic		Singapore press says Fujian PLA "on high alert" because of February 28 rebellion anniversary demonstration led by Lee Teng-hui

Date	Leadership Statements	Official Statements	Authoritative Press Comment	Other
2004				
3/6	FM LI ZHAO-XING NPC press conference reiterates Beijing will "not allow Taiwan separation by any means"			*Wen Wei Po* (Hong Kong) says Fujian PLA holiday leave cancelled, preparing for war
3/11	JIA QINGLIN in talks with Taiwanese NPC delegates reiterates Beijing will not "allow Taiwan separation by any means"			
3/12		SC TAO deputy WANG ZAIXI tells Taiwan media reps Beijing ready for any election outcome, "has already drafted 2 separate statements"		
3/14	WEN JIABAO in NPC press conference reiterates Beijing will never allow Taiwan separation, appreciates international community and U.S. rejecting referendum			

Date	Leadership Statements	Official Statements	Authoritative Press Comment	Other
2004				
3/20		CC and SC TAO STATEMENT says failure of referendum "proves" it was "an illegal act that went against the will of the people"; any effort toward Taiwan independence "is doomed to fail"		Xinhua reports failure of CSB referendum in March 20 election

Notes

[1] The now classic study of China's deterrence strategy for Beijing's intervention in the Korean War is Allen S. Whiting, *China Crosses the Yalu: The Decision to Enter the Korean War* (RAND Corporation, 1960). Whiting's assessment has been updated through newly released documents by Thomas J. Christensen, *Worse Than a Monolith: Alliance Politics and Problems of Coercive Diplomacy in Asia* (Princeton: Princeton University Press, 2011), chapter 2. Whiting's study of China's deterrence strategy for the 1962 border conflict with India and involvement in the Indochina war was originally published in 1975 and has been reprinted with a new foreword. In his foreword, Whiting reflects upon the implications for his earlier assessments of China's deterrence strategy by later publications exploiting sources not available to him. His reflections include the Korean War case and Beijing's 1995–1996 Taiwan Strait military exercises. See Allen S. Whiting, *The Chinese Calculus of Deterrence: India and Indochina* (Ann Arbor: Center for Chinese Studies, University of Michigan, 2001).

[2] See Andrew Scobell, *China's Use of Military Force: Beyond the Great Wall and the Long March* (Cambridge: Cambridge University Press, 2003), chapter 6, for a very interesting assessment of China's motivation for attacking Vietnam.

[3] For details, see Thomas Robinson, "The Sino-Soviet Border Conflicts of 1969: New Evidence Three Decades Later," in *Chinese Warfighting: The PLA Experience Since 1949*, ed. Mark A. Ryan, David M. Finkelstein, and Michael McDevitts, 198–216 (Armonk, NY: M.E. Sharpe, 2003).

[4] Barbara Barnouin and Yu Changgen, *Chinese Foreign Policy during the Cultural Revolution* (London: Keegan Paul International, 1998), 88.

[5] For details, see David G. Muller, Jr., *China As a Maritime Power* (Boulder, CO: Westview Press, 1983), 152–154.

[6] For a useful view of China's civilian maritime enforcement agencies, see Lyle Goldstein, *Five Dragons Stirring Up the Sea: Challenge and Opportunity in China's Improving Maritime Enforcement Capabilities* (Newport, RI: China Maritime Studies Institute, U.S. Naval War College, April 2010).

[7] For a recent look at these issues, see Mark E. Redden and Phillip C. Saunders, *Managing Sino-U.S. Air and Naval Interactions: Cold War Lessons and New Avenues of Approach*, China Strategic Perspectives, no. 5 (Washington, DC: National Defense University Press, September 2012).

[8] For a detailed and insightful assessment of Sino-American relations and the Taiwan dilemma, see Alan D. Romberg, *Rein In at the Brink of the Precipice: American Policy Toward Taiwan and U.S.-PRC Relations* (Washington, DC: The Henry L. Stimson Center, 2003).

[9] For details of these operations see Xiaobing Li, "PLA Attacks and Amphibious Operations During the Taiwan Strait Crises of 1954-55 and 1958," in *Chinese Warfighting*, 143–172.

[10] See Chalmers M. Roberts, "Dulles Sees General Use of A-Arms," *The Washington Post*, March 16, 1955, 1; and the discussion in Thomas E. Stolper, *China, Taiwan, and the Offshore Islands* (Armonk, NY: M.E. Sharpe, 1985), 89–90.

[11] For a useful assessment of China's deterrence strategy and the PLA's military exercises, see Scobell, chapter 8. For a detailed assessment of the exercises and the U.S. responses, see Robert L. Suettinger, *Beyond Tiananmen: The Politics of US-China Relations 1989–2000* (Washington, DC: Brookings Institution Press, 2003), chapter 6.

[12] Roberts, 1; and Stolper, 89–90.

[13] See Taylor Fravel, *Strong Borders, Secure Nation: Cooperation and Conflict in China's Territorial Disputes* (Princeton, NJ: Princeton University Press, 2008).

[14] We are grateful to Professor Bernard Cole of the National War College for bringing this reality to our attention.

[15] For a detailed assessment of this arrangement and its applicability to potential U.S.-China incidents, see Redden and Saunders.

[16] Adapted from Robert L. Suettinger, "U.S. 'Management' of Three Taiwan Strait 'Crises,'" in *Managing Sino-American Crises: Case Studies and Analysis*, ed. Michael D. Swaine and Zhang Tuosheng, 251 (Washington, DC: Carnegie Endowment for International Peace, 2006).

[17] Adapted from Michael D. Swaine, "Understanding the Historical Record," in *Managing Sino-American Crises*, 37–64.

[18] Draws from the discussion in Wang Jisi and Xu Hui, "Pattern of Sino-American Crises: A Chinese Perspective," in *Managing Sino-American Crises*, 137–146.

[19] See, for example, Allen S. Whiting, "U.S. Crisis Management Vis-à-vis China: Korea and Vietnam," in *Managing Sino-American Crises*, 215–249; and Niu Jun, "Chinese Decision Making in Three Military Actions Across the Taiwan Strait," in *Managing Sino-American Crises*, 293–326.

[20] It must be noted here that a primary driver for China's military modernization programs is in fact preparation for a military confrontation with the United States over Taiwan. Some Chinese undoubtedly do hold the views expressed by these authors, but caution leads Beijing and China's armed forces to prepare for the worst plausible case scenario.

[21] The following discussion is taken from Wang and Xu, 140–141.

[22] Ibid., 145–146.

[23] To cite but two sources among many, see David M. Lampton, "Testimony before the U.S.-China Economic and Security Review Commission," Hearing on China's Narratives Regarding National Security Policy, March 10, 2011; and Linda Jacobson and Dean Knox, *New Foreign Policy Actors in China*, SIPRI Policy Paper No. 26 (Stockholm: Stockholm International Peace Research Institute, September 2010). Much of this discussion is drawn from these sources.

[24] Lampton, 5.

[25] Jiefangjun Bao, April 15, 2008.

[26] Hu Yinan, "Military Hot Line Smooths Rocky Relationship," *China Daily Online*, November 12, 2011.

[27] The following case study analyses of the 1978–1979 Sino-Vietnamese war, the 1960–1961 Sino-Indian border war, and Taiwan Strait confrontations from 1991 through 2004, as well as the appended chronologies, derive from relevant Foreign Broadcast Information Service Daily Reports and from the Chinese Communist Party's newspaper *People's Daily*.

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THE STRATEGIC CONSEQUENCES OF CHINESE RACISM: A Strategic Asymmetry for the United States

Draft Report

Submitted 7 January 2013
This is the first of two deliverables.

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[redacted] University also was a great help to me in numerous discussions about race and the Chinese worldview, Chinese attitude toward racial and religious minorities in China and outside of it, particularly their perspectives on Christians and Christianity, and their perception of the United States, Europe, India, and Russia.

[redacted] aided me time and again with translations, broadening my understanding of Chinese racism and racial ideas, China's conception of strategy and *shi* [势], while permitting me to

comprehend how ancient many of these beliefs are and how woven they are in Chinese history and culture, and why they remain.

Lastly, any opinions, findings and conclusions or recommendations expressed in this material are those of the author and do not necessarily reflect those views of the Office of the Secretary of Defense, Director, Net Assessment.

Chinese Dynastic Chronology:
Major Periods in Imperial China

Legendary Sage Emperors B.C.	2852-2255
Xia	2205-1766
Shang	1766-1045
Zhou	
Western Zhou	1045-770
Eastern Zhou	771-256
Spring and Autumn	722-481
Warring States	403-221
Qin	221-207
Former Han (Western Han)	206 B.C.-A.D. 8
Later Han (Eastern Han)	23-220
Three Kingdoms	168-280
Six Dynasties	222-589
Sui	589-618
Tang	618-907
Five Dynasties	907-959
Northern Song	960-1126
Southern Song	1127-1279
Yuan (Mongols)	1279-1368
Ming	1368-1644
Qing (Manchus)	1644-1911

Executive Summary

Whether China and the United States are destined to compete for domination in international politics is one of the major questions facing DoD. In a competition with the People's Republic of China, the United States must explore all of its advantages and all of the weaknesses of China that may provide an asymmetry for the United States. This study examines one such asymmetry, the strategic consequences of Chinese racism. After having examined the literature on China extensively, this author is not aware of a single study that addresses this important topic.

This study explores the causes of Chinese racism, the strategic consequences of Chinese racism, and how the United States may use this situation to advance its interests in international politics.

In **Chapter One**, the study finds that xenophobia, racism, and ethnocentrism are caused by human evolution. These behaviors are not unique to the Chinese. However, they are made worse by Chinese history and culture.

Chapter Two considers the Chinese conception of race in Chinese history and culture. It finds that Chinese religious-cultural and historical conceptions of race reinforce Chinese racism. In Chinese history and contemporary culture, the Chinese are seen to be unique and superior to the rest of the world. Other peoples and groups are seen to be inferior, with a sliding scale of inferiority. The major Chinese distinction is between degrees of barbarians, the "black devils," or savage inferiors, beyond any hope of interaction and the "white devils" or tame barbarians with whom the Chinese can interact. These beliefs are widespread in Chinese society, and have been for its history.

Modern Chinese views on race are no better than they were in the past. The study reviews the racist views of major Chinese political thinkers and the Communist Party. Racism remains a key component of how the Chinese see the world, their central place in it, and the world's other, inferior inhabitants. The chapter concludes with the recognition that China has been and remains

a racist state, where racists and eugenicist beliefs inform the Chinese worldview.

Chapter Three evaluates the nine strategic consequences of Chinese racism.

First, virulent racism and eugenics heavily inform Chinese perceptions of the world. United States decision-makers must recognize that China is a racist state, much closer to Nazi Germany than to the values upheld in the West. Most often, the Chinese do not even recognize their racism as a problem. They believe that racism is a Western phenomenon and that Westerners are obsessed with race. This obsession is seen by the Chinese to be a strategic vulnerability of the West, whereas China is not affected by racism.

Second, racism informs their view of the United States. From the Chinese perspective, the United States used to be a strong society that the Chinese respected when it was unicultural, defined by the centrality of Anglo-Protestant culture at the core of American national identity aligned with the political ideology of liberalism, the rule of law, and free market capitalism. The Chinese see multiculturalism as a sickness that has overtaken the United States, and a component of U.S. decline.

Third, racism informs their view of international politics in three ways. First, states are stable, and thus good for the Chinese, to the degree that they are unicultural. Second, Chinese ethnocentrism and racism drive their outlook to the rest of the world. Their expectation is of a tribute system where barbarians know that the Chinese are superior. Third, there is a strong, implicit, racialist view of international politics that is alien and anathema to Western policy-makers and analysts. The Chinese are comfortable using race to explain events and appealing to racist stereotypes to advance their interests. Most insidious is the Chinese belief that Africans in particular need Chinese leadership.

Fourth, the Chinese will make appeals to Third World states based on "racial solidarity," that is, the need of non-white peoples to unite against Western imperialism and racism. Racial solidarity claims are easy for Chinese to

accomplish since the Chinese can make strategic racist claims. For example, they can frame international politics in terms of a "racial balance of power," and cast appeals to the Third World along the line of: now is the time for non-whites to dominate international politics.

Fifth, Chinese racism retards their relations with the Third World. Chinese racism makes it difficult for China to advance a positive message in the Third World, especially Africa, but also in Latin America and the Middle East. The Chinese have a hierarchical representation of looking at other groups, darker skin is lower class, and race matters. In this sense, the racial stereotypes of the Africans commonly found within Chinese society suggest that this population is backward and dirty, and prone to crime, particularly violent crime. These beliefs surface regularly in China's relations with the Third World and these beliefs, coupled with clannish and ruthless Chinese business practices, generate enormous resentment in the Third World.

Sixth, Chinese racism, and the degree to which the Chinese permit their view of the United States to be informed by racism, has the potential to hinder China in its competition with the United States because it contributes to their overconfidence. This overconfidence is a result of ethnocentrism and a sense of superiority rooted in racism. The Chinese commonly believe that they are cleverer than others, and so may shape events in an oblique manner or through *shi* [势], the strategic manipulation of events. This conceit among the Chinese that they can manipulate others is supremely dangerous for Asian stability. At the same time, it is a great advantage for the United States to play upon that overconfidence. An overconfident China will continue to make the mistakes it is presently in the South China or East China Sea disputes. That is, making threats, issuing demands, heavy-handed shows of force, are generated by China's overconfidence.

Seventh, as lamentable as it is, Chinese racism helps to make the Chinese a formidable adversary. There are three critical consequences that result from this. The first is the sense of unity the Chinese possess. Second, it allows the Chinese to have a strong sense of identity, which in turn permits them to weather adversity, and to be focused and secure confidence that the rest of

the nation is with them. Third, China is not plagued by self-doubt or guilt about its past.

Eight, the Chinese are never going to go through a civil rights movement like the United States. This is because, first, they have no freedom of the press, freedom to petition their government, freedom to assemble, all of which are necessary to support a civil rights movement. Second, there is no political drive or consciousness for equality in Chinese thought. Equality is associated with Maoism and rejected in today's China, where inequality is accepted and celebrated. In addition, there is no notion of civil rights in Chinese political thought or, practically, in jurisprudence.

Ninth, China's treatment of Christians and ethnic minorities is poor. The government recognizes that religion is able to do many positive acts in a society, and they do see the need for people to have a moral, religious grounding provided by religion since a moral framework may be lost in the demands of a market economy. The current debate is an echo of the one they had in the 1800s, how do they preserve the essence of what is Chinese in an era dominated by Western ideas. Yet, the government is fearful of religion in the sense that uncontrolled religion may be a threat; a challenge to Beijing's authority. Not surprisingly, the treatment of ethnic minorities is equally bad.

Chapter Four considers the five major implications for United States decision-makers and asymmetries that may result from Chinese racism.

First, Chinese racism provides empirical evidence of how the Chinese will treat other international actors if China becomes dominant. One of the key insights into Chinese future behavior is its behavior in the past. Analysts do have insight into how China will behave in the future based on its behavior in the past, when it was the hegemon of Asia, the known world as far as China was concerned. China sees itself as the center of the universe, all others are inferior, with varying degrees of inferiority. That is not an attractive model of winning allies and influence.

United States Defense decision-makers might draw upon the following themes as asymmetrical messages to weaken China's influence in the world. The first of these themes should be to advance a "reality check" to the global community: "how do Chinese words match Chinese deeds when it comes to treating people fairly and equally."

The second theme is to introduce fault. "Why do the Chinese refuse to change their racist views of the rest of the world?" Or more succinctly, "Why don't the Chinese like black people; or Indians; or South East Asians; or Latin Americans?" Attention needs to be called to its eugenics policies as well. "Why do the Chinese support eugenics generations after it was discredited in the West?" Likewise, explicit ties to the policies of Nazi Germany may be made since both Berlin and Beijing embraced eugenics. Beijing continues to do so long after it has been discredited.

A third theme is to suggest that there is something profoundly wrong with China's worldview: "Why are the Chinese unable, or unwilling, to change their racist views?" Or that there is something deeply iniquitous with China itself, that is to say there is something profoundly wrong with the Chinese people, or with their elite: "Why is China a racist state?" "Racism has been confronted and defeated worldwide, why is it celebrated in China?"

These themes allow the United States and other countries to challenge China's projected image of an oppressed victim of racism with actual empirical reality: China is a racist superpower. It practices discredited eugenics policies. It does not equal the horrors of Nazi Germany, but it is far closer to Nazism than it is to a free, open, and tolerant society.

Second, it allows the United States to undermine China in the Third World.

The essence of the Chinese message to Third World states is a straightforward rhetorical query: Has the United States or the Europeans ever treated you as equals? In contrast, China portrays itself as an apolitical rising superpower that does business in your country, pays a fair price for your commodities, and builds your infrastructure with no string attached.

The United States needs to counter the expansion of Chinese influence by tying in to the messages stated above, but adding the important point that there is no culture of anti-racism in China, and so there is little hope for

change. Messages may be advanced along the following line: "The West confronted racism and developed a strong culture of anti-racism, China has not, nor is it likely to do so."

Second, the United States should highlight that Chinese business practices are destructive. There often is considerable resentment toward the Chinese due to their ruthless business practices, which undercut and destroy African businesses. The combination of the two messages, "China is racist with no culture of anti-racism, and their businesses practices are destructive for the locals," would be most effective in making appeals to the Third World.

Third, it is an obvious point, but it must be made: the Chinese are hypocrites when it comes to race and racial equality. For all of their rhetoric on Africa and their "African brothers," the cold facts of Chinese racism triumph paeans to "Third World solidarity."

Fourth, the message of the United States should be: We are better than the Chinese for Africa. We will assist you with economic aid to offset what you receive from China. In sum, culturally, socially, and politically, the United States is better, citizens are equal, racial equality, and civil rights are recognized.

Third, it permits a positive image of the United States to be advanced in contrast to China.

The direct fact is, when compared with China, it is easy to convey to the rest of the world the message that the United States is open and inclusive, whereas China is not. This is because to do so is completely in accord with the principles of the United States and its history.

The messages should be, first, the United States seeks the best from around the world, and will permit them to come to the country so that they may prosper, fulfill themselves as individuals, innovate, and, in turn, aid economic growth and innovation in the United States. Second, the United States opens its society, educational system, Universities, military, and economy to immigrants as countless examples demonstrate. Third, it has in place Affirmative Action policies as a matter of state policy that benefits immigrants from racial minorities and/or those who are women. In sum, the

United States is one of the most transparent societies in the world for immigrants.

Fourth, calling attention to Chinese racism allows political and ideological alliances of the United States to be strengthened. Political alliances particularly with Third World states are an obvious benefit. Equally important are the ideological alliances that the United States may augment. Intellectual circles in Europe, Canada, and the United States value multiracial and multicultural societies.

Journalists and media opinion-makers frequently share a multiracial and multicultural vision of their societies as well. Yet, thus far, they have not treated the problem of Chinese racism with the attention it deserves. The "China is a racist state" message of the United States will help win allies in global, popular culture, which is heavily influenced by ideals rooted in Western, left wing political thought, including strong currents of anti-racism. Popular cultural figures from film, music, television, and sports, will be far better able to call attention to China's racism for younger audiences worldwide than will official or semi-official Washington.

It is to the advantage of the United States to have the world consider the costs of Chinese dominance in order to grasp what will be lost. This is an exercise that most of the world has not done, and as a result there is no appreciation of what will be lost; or how hypocritical, domineering, and imperialistic China will be.

Fifth, United States defense decision-makers must recognize that racism is a cohesive force for the Chinese. Racism does benefit the Chinese in four major ways. First, the Han Chinese possess a strong in-group identity with a polarized and tightly defined out-group. This allows the Chinese government to expect sacrifice as well as support from a considerable majority of the Chinese people.

Second, based in this identity, the government has the ability to focus with great willpower on the demands of the state. All governments make patriotic appeals, but the Chinese government is able to do so effectively because any entreaty is based on patriotism as well as nationalism. When we reflect on the tools the Chinese government has to extract support and

resources from the population, only one conclusion is possible, they are formidable.

Third, they have strong societal unity and purpose, which supports Chinese power. The Chinese do not have a culture that is self-critical or one that ponders its fundamental faults.

Fourth, China's racism and ethnocentrism serves China's teleological worldview. History, in the Hegelian sense, is moving in China's direction and the future belongs to it, China's political beliefs, civilizational culture, and economic might triumphed over the West.

While racism can be a great strength for China, it also gives the United States an advantage. The lack of any desire by the Chinese to self-reflect on the profound faults of their society means that there is no motivation to solve these faults. Accordingly, a powerful message may be that China will not change because it has no desire to do so. In essence, with China, "what you see is what you get." The country is a civilization, and that yields them great strength.

At the same time, there cannot be fundamental change. China is not an open society, transparent and porous for new ideas that would challenge its core beliefs. For those states and peoples whom the Chinese see as inferior, dissatisfaction with core Chinese beliefs is certain to increase as Chinese power expands. Thus, the United States may tap into that "market of dissatisfaction" by calling attention to China's lack of flexibility and flexibility, contempt for, and dismissal of the rest of the world.

Finally, the United States may make appeals to those actors in international politics that do not desire China to be at the center of the world either, first, because their interests directly conflict with China's, like India, Japan, Russia, and Vietnam; second, because they resent being excluded from consideration, treated equally, or with respect; or third, because they reject China's values and worldview.

The study's fundamental conclusion is that endemic Chinese racism offers the United States a major asymmetry it may exploit with major countries, regions like Africa, as well as with important opinion makers in international politics. The United States is on the right side of the struggle against racism

and China is not. The United States should call attention to this to aid its position in international politics.

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Introduction

Whether China and the United States are destined to compete for domination in international politics is one of the major questions facing the United States Department of Defense. In a competition with the People's Republic of China, the United States must explore all of its advantages and all of the weaknesses of China that may provide an asymmetry for the United States. This study examines one such asymmetry, the strategic consequences of Chinese racism. After having examined the literature on China extensively, this author is not aware of a single study on this important topic. It appears that most Sinologists do not deem the topic worth studying, or simply accept Chinese racism as a given.

This study explores the causes of Chinese racism, the strategic consequences of Chinese racism, and how the United States may use this situation to advance its interests in international politics.

The study finds that Chinese racism is caused by human evolution and Chinese history and culture. In Chinese history and contemporary culture, the Chinese are seen to be unique and superior to the rest of the world. Other peoples and groups are considered to be inferior, with a sliding scale of inferiority. The major Chinese distinction is between the "black devils," the savage inferiors beyond any hope of interaction, and the "white devils," the

tame barbarians with whom the Chinese can interact. These beliefs are widespread in Chinese society, and have been for its history. China has always had a history of discrimination against minorities and foreigners. This history of discrimination and view of the inferiority of racial minorities is as strong today as ever, and has existed even in the communist period with its alleged universalism and ideological opposition to racial discrimination, which also was stressed by the "Third World solidarity" of Maoism. Indeed, the eminent Chinese leader Sun Yat-sen said that the "greatest force" for China is "common blood."

Most often, the Chinese do not even recognize their racism as a problem. They believe that racism is a Western phenomenon and that Westerners are obsessed with race. This obsession is seen by the Chinese to be a strategic vulnerability of the West, whereas China is not affected by racism.

A major strategic consequence of Chinese racism is that it heavily informs their view of the world. The Chinese believe that states are good to the degree that they are unicultural. They have a strong, implicit, and racialist view of international politics, and an equally dominant view of the racial balance of power. Most insidious is the Chinese belief that Africans in particular need Chinese leadership because they are too childlike to care for

their own needs. The United States should expect that China will make appeals to the Third World based on "racial solidarity."

This provides a significant opening for the United States to advance its interests at China's expense. Washington may explain why its open policies and specific policies to combat racism make it a more attractive ally. The United States can take advantage of Chinese racism in its foreign and defense policies, as well as in the global public sphere. Most of the world's opinion makers in the media and popular culture are sensitive to the dangers of racism, and so are more favorably inclined to Washington's policies than Beijing's. Chinese racism also provides the world with important insights into how international politics will look when China is dominant. These insights should add further support for Washington. In sum, Chinese racism offers the United States specific asymmetries it can exploit, specifically the ability to hinder China's appeal in the Third World.

The conclusion is that endemic Chinese racism offers the United States a major asymmetry it may exploit with major countries, regions like Africa, as well as with important opinion makers in international politics. The straightforward message is that the United States is on the right side in the struggle against racism and China is not. The United States should call

attention to this to aid its position in international politics. This study specifically explains how this may be achieved.

Moreover, the asymmetry identified may be used in other contexts for future Office of Net Assessment research on China and other peer and near-peer competitors in international politics.

The Assumptions of the Study

This study makes three assumptions. The first is that China will not waiver in its desire or ability to confront the United States. This is a solid assumption. As I have shown in previous work, the desire to confront the United States is so strong as to be unyielding. There is greater doubt about the ability of China to confront the United States due to likely economic downturn as a result of domestic causes such as economic bubbles and structural and environmental problems in its economy. China's economic growth is slow, but due to its hegemonic ambitions, the reduced growth is only likely to extend the time needed to equal, and then surpass, the economic, diplomatic, and military power of the United States.

The second is that the Chinese will not change their racist views. As the study will reveal, this is a reasonable assumption due to the evolutionary origins of racism, how difficult it is to defeat, and the historical and cultural attitudes toward race in China. I maintain that they will not change, even

when the Chinese government, as it surely will do, recognizes that it is a significant problem for China's image abroad and the attractiveness of its soft power. Change is unlikely due to the cultural force of the racist beliefs and the ethnocentrism and self-identity of the Chinese. No doubt, the Chinese will make token gestures and invite numerous African leaders for lavish state visits, but the reality of Chinese views about race, their ethnocentrism, chauvinism, and pride, conspire to form a reality that will trump any sustained contact with the Chinese.

The third assumption is that United States decision-makers will have the confidence to identify, call attention to, advance, and sustain messages designed to counter Chinese racism. This is difficult to do because race is a controversial and loaded topic in the United States. Understandably, decision-makers may be weary to call attention to or use in a global ideological struggle, the obvious fact of Chinese racism. In part, this is due to the difficult racial history of the United States.

However, they should take heart, and recognize a clear and transparent virtue. To its great credit, the United States identified and addressed racism from the 1950s. The Chinese have not, and will not. The United States' political system is open to change to redress its faults. The

Chinese system is much less flexible. In contrast to China, the United States is a much more open and welcoming society for all races of people.

Chapter One
The Evolutionary Origins of Xenophobia, Racism, and Ethnocentrism

This study begins with the recognition that racism is a problem in every society and in every culture throughout history.[1] For present purposes, racism is defined as the belief or doctrine that race is the primary determinant of human abilities and capabilities, of an individual or group, and, second, that racial differences produce inherent superiority of a particular race. Racism is almost always twinned with ethnocentrism, a close, but not identical idea that one's own people, or race, is superior to the others, and comprises the right of, or justification for, dominating or ruling over them.[2] Racism may be institutionalized, that is, defined and accepted formal—governmental, cultural, economic, and social—patterns that have the desired effect of imposing oppressive or otherwise negative conditions against identifiable groups on the basis of race, ethnicity, or caste.

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[1] An excellent introduction to the problem of racism and its theoretical explanations is Michael Banton, *Racial Theories*, 2nd ed. (New York: Cambridge University Press, 1998).

[2] Just as it does imply what many academics term "hypernationalism," the belief that other ethnic groups should be dealt with harshly, including extermination. For an elaboration of hypernationalism, see Stephen Van Evera, *Causes of War: Power and the Roots of Conflict* (Ithaca, N.Y.: Cornell University Press, 2001).

Contemporary societies have mixed records addressing the problem. Historically, it was a problem for all societies. That is far less the case today, as there is considerable variation in the degree of racism throughout the world. In general, East Asia ranks very high in the degree of racism tolerated, and explicitly voiced, within society. Racism, particularly with respect to caste prejudice remains very high in South Asia. Racism is common at every level of Russian society and is at times explicitly voiced in Russia. In Latin America, we find racism consistently high in societies with Indian populations.[3] Discrimination against darker skinned Indians by descendants of Europeans remains an unfortunate characteristic of those societies.

The exception is the West. Broadly, the West has performed admirable work in combating racism in Western societies. Most Western societies have made prodigious efforts, first, by considering racism as a major social and civil problem, if not *the* major social and civil problem in their societies.

Second, having identified the problem, these societies have taken steps in every aspect of life to combat racism. It is no exaggeration to state that these societies have undergone a revolution with overturning how racial

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[3] Laura A. Lewis, "Spanish Ideology and the Practice of Inequality in the New World," in Benjamin P. Bowser, ed., *Racism and Anti-Racism in World Perspective* (Thousand Oaks, Calif.: Sage, 1995), pp. 46-66.

and other minorities were perceived in the public sphere. Governmental policies have changed to support and advance the rights of racial minorities. Corporations spend billions on ensuring diversity, donating to the right institutions and universities, and in promoting workspace that is free of any suggestion or patina of racism. In the academic realm, universities spend many billions supporting minority faculty and student recruitment, ethnic studies programs, and affirmative action and outreach programs. Like its counterparts in the West, the United States military has labored since the Truman administration to integrate the services and to combat racism, especially in the wake of the racial incidents that plagued the services near the end of the Vietnam war and in its aftermath.[4] In this light, the work of Generals Creighton Abrams and Donn Starry to reform the army, one is tempted to say "save" the army, may be fully appreciated.

In the public sphere, the changes have been more profound. The news media are particularly sensitive to racism in corporations, governmental policies, or even individuals. Recall the Prime Minister of the United Kingdom, Gordon Brown, denouncing a pensioner as "a bigoted woman" because she complained about Polish immigration to the UK. Popular

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[4] Indeed, helped to spawn such works as Cincinnatus, *Self-Destruction: The Disintegration and Decay of the United States Army During the Vietnam Era* (New York: Norton, 1981); and Edward L. King, *The Death of the Army: A Pre-Mortem* (New York: Saturday Review Press, 1972).

culture, Hollywood, television, magazines, and, more recently, blogs, take the issue of racism very seriously. Anti-racist messages are common in film and television, while positive images of racial minorities are heavily emphasized. Hollywood and television take their monitoring and policing of the public sphere seriously and work to identify violators, and punishing them through ridicule or through expulsion from the community and acceptable company.

Former *Seinfeld* comedian Michael "Kramer" Richards discovered this fact when he criticized black members of his audience who were heckling him as he performed his act. His remarks used racist language and cost him his career. The days of a Don Rickles performance, long on ethnic jokes and characterizations, are at least a generation past in the West.

The primary and secondary educational system has been completely remade since 1970s to emphasize the contributions of racial minorities and the dangers of racism. The students receive instruction about the evils of prejudice and bigotry from K-12, while positive education about minorities is heavily emphasized. For the American student today, anti-racism and minority history months are as much a part of his primary and secondary education as instruction in mathematics, government, or physical education.

Despite prodigious efforts made in the West to combat racism, it still remains. The fundamental reason why it is so difficult to erase such behavior

is because the trait, found in all humans across all cultures, is rooted in human evolution. The trait of racism is an unfortunate consequence of living in a hostile and dangerous world, where resources were scarce and the need to identify family members, whether close or more distantly related, was essential for survival.

We may think of racism as being a product of the human evolutionary past. And it is not the only unfortunate trait that evolution has bequeathed to humanity today. The central traits related to racism are groupishness, the human ability to create in-groups and out-groups, xenophobia, and ethnocentrism.

In order to understand why racism is such a problem in human affairs, it is critical to approach the issue from an evolutionary perspective. Adopting such a lens to study this issue allows us to understand that racism, and the allied traits of groupishness, xenophobia, and ethnocentrism, are anchored in human evolution, and are thus a part, regrettable as it is, of what makes us human. As the great evolutionary theorist E.O. Wilson argues, "the human condition is an endemic turmoil rooted in the evolutionary processes

that created us. The worst in our nature coexists with the best, and so it will ever be. To scrub it out, if such were possible, would make us less human."[5]

Applied to the topic of this study, these insights allow us to perceive that endemic Chinese racism is wrong, to be sure, but is also understandable. It is shared with other cultures and civilizations in the past as well as the present day. Indeed, it would have been common in Western societies, even in academic and other elite circles, a generation ago. It takes a great effort to combat racism. Once launched, these efforts must be maintained by governmental and economic actors, twinned with those in civil society and popular culture. We must recognize a difficult truth: thus far the Chinese have not done so; nor have they yet to find the courage and energy necessary to do so.

It is not the place of this study to blame the Chinese. It is regrettable that they have not followed the lead of the West in combating racism. Acknowledging this regret, it also opens the opportunity of the West, and for the United States in particular to call attention to this fact, and to use this unfortunate condition for the advantage of the United States in its competition with China. Succinctly put: the causes of the Chinese attitudes towards race are human evolution coupled with Chinese history and culture.

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[5] Edward O. Wilson, *The Social Conquest of the Earth* (New York: W.W. Norton, 2012), p. 56.

This chapter considers the evolutionary origins of xenophobia, racism, and ethnocentrism. The next chapter will consider racism in Chinese thought.

I. Evolutionary Origins

In addition to advancing our understanding of racism, evolutionary theory also provides important insights about the in-group/out-group distinction commonly made by anthropologists, psychologists, sociologists, and political scientists.[6]

The study now turns to a discussion of the origins of "groupishness," or why humans, universally, divide the world into we, ourselves, those of our group, and the others, those that comprise outside groups. In benign circumstances, this may be a simple and harmless division, a Green Bay Packers fan versus a Bears fan; a San Francisco Giants loyalist against a Detroit Tigers zealot. In more serious cases, it is no exaggeration to identify this as a matter of life and death, as it has been for countless people throughout recorded time.

Of the many biases unearthed in the so-called "cognitive revolution" in psychology, the in-group/out-group bias is one of the most significant,

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[6] S. T. Fiske, "What We Know about Bias and Intergroup Conflict, Problem of the Century," *Current Directions in Psychological Science*, Vol. 11 (2002), pp. 123-128; M. Hewstone, M. Rubin, and H. Willis, "Intergroup Bias," *Annual Review of Psychology*, Vol. 53 (2002), pp. 575-604. A classic anthropological account is Raymond Firth, *We, The Tikopia* (London: Allen and Unwin, 1957).

widespread, and pervasive. The fundamental point of this division is that humans divide the world into an "Us," the in-group, versus "Them," the out-group, worldview.

Psychologists refer to the in-group as one's own group, to which one is positively biased. They argue that in-groups develop from a need for self-definition. This in-group identity helps to define one both positively and negatively, and it provides one with meaning and purpose, knowing one is a part of a community with common interests, values, and goals. Most importantly, one knows what one is not—a member of the out-group. In contrast, the out-group is stereotyped and homogenized as the "Other." Among the many different categories of an in-group, the most common and significant ones are family, friendship, age, race, sex, class, nationality, and citizenship.

Psychologist Henri Tajfel's famous in-group/out-group experiments demonstrate the force of these distinctions.[7] Tajfel used as his subjects unrelated individuals to whom he assigned casual, trivial, or random categories; almost all of them formed groups on the basis of each of these

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[7] Henri Tajfel, "Social Identity and Intergroup Behaviour," *Social Science Information*, Vol. 13, No. 2 (1974), pp. 65-93; and Tajfel, *Human Groups and Social Categories* (Cambridge: Cambridge University Press, 1981). For its relation to ethnic conflict see Donald L. Horowitz, *Ethnic Groups in Conflict* (Berkeley: University of California Press, 1995), pp. 144-147.

categories, and discriminated against other groups on the basis of their new group identity.

Tajfel's further experiments had interesting results. He gave his subjects three choices: one, they could maximize the joint profit of both in-group and out-group; two, maximize the total profit of the in-group; or three, maximize the difference between the profit of the in-group and the profit of the out-group. He found that the outcome that had the most appeal was the maximal differential between groups, which might also be called relative gains, even if this meant less in absolute terms for the in-group.[8] Decades of research have replicated and confirmed the central finding: even strangers assigned into arbitrary groups very quickly display a strong favoritism towards their own group, and a strong dislike of other groups.

Tajfel's findings bring to mind the Russian parable about the peasant and the genie. When a peasant finds a bottle and uncorks it, a genie appears and promises the peasant a wish. He replies, "Well, my neighbor has a cow and I have none. So, I wish for you to kill my neighbor's cow."

Individuals often appear to value relative differences or gains much more than absolute differences or gains, especially in inter-group conflicts.

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[8] Horowitz, *Ethnic Groups in Conflict*, p. 145. Also see Henri Tajfel and John Turner, "An Integrative Theory of Intergroup Conflict," in W. G. Austin and S. Worchel, eds., *The Social Psychology of Intergroup Relations* (Monterey, Calif.: Brooks/Cole, 1979).

Nine surveys of "contentedness" in U.S. citizens between 1946 and 1970 show that the level of "happiness" is not linked to absolute income levels—the distribution of responses did not change even though national per capita income rose during this period by 56 percent.[9] Thus, a constant proportion of people remain unhappy despite being absolutely better off. The best explanation for this is that those same proportion of people continue to recognize that another proportion has more than they do. This effect was consistent between various advanced and less developed countries, and supported by data that people's perception in the U.S. of minimum acceptable wage grew roughly at the same rate as the national income—even though it was much higher than inflation.

The ubiquity of the in-group/out-group distinction across human cultures and across time suggests that it is an evolutionary adaptation. But rather than simply relying on ubiquity of behavior, evolutionary theory provides an ultimate causal explanation of the in-group/out-group distinction made by humans: it explains why such a mechanism would evolve. There are three major reasons why this is so.

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[9] These results are detailed in Robert H. Frank, *Choosing the Right Pond: Human Behavior and the Quest for Status* (New York: Oxford University Press, 1987).

First, given the paucity of resources in the Pliocene, Pleistocene, and Holocene environments of human evolution, cooperation with groups beyond one's own was probably rare, given the necessity of satisfying one's own, and one's relatives, needs. Rather, considerable evidence points to intensive inter-group conflict in our evolutionary past, from both archeological and ethnographic evidence on pre-industrial societies.[10] Male deaths from warfare averaged around fifteen percent of the population—and in some societies were considerably higher—compared to the one percent of the western population during the so-called "bloody" 20th century.[11] Competing human groups are commonly the most dangerous threat in the environment.[12]

Second, in the Pliocene, Pleistocene, and Holocene environments, our human ancestors faced varied and great threats, in the form of other animals

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[10] Azar Gat, *War in Human Civilization* (Oxford: Oxford University Press, 2006); Jean Guilaine and Jean Zammit, *The Origins of War: Violence in Prehistory* (London: Blackwell, 2004); Lawrence H. Keeley, *War Before Civilization: The Myth of the Peaceful Savage* (Oxford: Oxford University Press, 1996); Steven LeBlanc with Katherine E. Register, *Constant Battles: The Myth of the Peaceful, Noble Savage* (New York: St. Martin's Press, 2003); and Richard W. Wrangham and Dale Peterson, *Demonic Males: Apes and the Origins of Human Violence* (London: Bloomsbury, 1996).

[11] Samuel Bowles, "Group Competition, Reproductive Leveling, and the Evolution of Human Altruism," *Science*, Vol. 314 (2006), pp. 1569-1572; and Keeley, *War Before Civilization*.

[12] Richard D. Alexander, *The Biology of Moral Systems* (New York: Aldine, 1987).

and other humans, as well as natural dangers such as disease, infections, complications from injuries, and the surrounding environment. Rivers posed the risk of drowning, terrain posed the risk of falling, and weather could cause freezing or dehydration. Even something as simple as falling or slipping on a rock could cause a fatal injury. For example, the preserved remains of "Ötzi", tell us that he was first wounded and then probably froze to death as he rested in the Italian Alps. As a result of these dangers, humans and other animals needed the ability to rapidly assess threats and react quickly.

The in-group/out-group distinction may be thought of as the human brain's immediate threat assessment: in sum, no threat/threat. Is the outsider a threat to oneself or to one's family? As psychologist Robert Bolles writes: "What keeps animals alive in the world is that they have very effective *innate* defensive reactions which occur when they encounter any kind of new or sudden stimulus."[13] These reactions vary, he says, "but they generally take one of three forms: animals generally run or fly away, freeze, or adopt some type of threat, that is, pseudo-aggressive behavior."[14]

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[13] Robert C. Bolles, "Species-Specific Defense Reactions and Avoidance Learning," *Psychological Review*, Vol. 77, No. 1 (1970), pp. 32-48, 33. Emphasis in original.
[14] Bolles, "Species-Specific Defense Reactions and Avoidance Learning," p. 33.

These reactions are elicited by the appearance of a predator, and also by innocuous, but unfamiliar, objects or animals. Bolles continues: "These responses are always near threshold so that the animal will take flight, freeze, or threaten whenever any novel stimulus event occurs….The mouse does not scamper away from the owl because it has learned to escape the painful claws of the enemy; it scampers away from anything happening in its environment."[15] Likewise, he argues, the gazelle "does not flee from an approaching lion because it has been bitten by lions; it runs away from any large object that approaches it, and it does so because this is one of its species-specific defense reactions."[16]

He concludes: "The animal which survives is the one which comes into the environment with defensive reactions already a prominent part of its repertoire."[17] As a result, over the course of human evolution, strangers were first likely to fear one another, at least until they became familiar.[18]

Third, strangers might pose an important immediate threat. Given scarce resources, our human ancestors would have used their intelligence

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[15] Bolles, "Species-Specific Defense Reactions and Avoidance Learning," p. 33.
[16] Bolles, "Species-Specific Defense Reactions and Avoidance Learning," p. 33.
[17] Bolles, "Species-Specific Defense Reactions and Avoidance Learning," p. 33.
[18] J. Sidanius and R. Kurzban, "Evolutionary Approaches to Political Psychology," in D. O. Sears, L. Huddy, and R. Jervis, eds., *Handbook of Political Psychology* (Oxford: Oxford University Press, 2003); and D. Lieberman, J. Tooby, and L. Cosmides, "The Architecture of Human Kin Detection," *Nature*, Vol. 44 (2007), pp. 727-731.

and ability to reason into the future to assess outsiders. Any outsider would be judged fairly quickly to determine whether his presence was a threat to their current and future resources. Would he compete for the scarce resources they needed to survive? Would he present competition for mates? Or would his presence threaten their position in the extended family or tribal group? In environments where resources were particularly contested, this could become extreme. For example, among the Inuit of the Arctic, "unfamiliar men would normally be killed even before questions were asked."[19]

Consequently, as with the great majority of animals, humans rapidly assess threats posed by conspecifics or other animal and natural threats. Of course, the human ability to assess such threats is much more complex than it is in other animals. Thus, we may consider other variables, such as the possibility of immediate trade or trade and cooperation in the long run, given the constraints of Trivers' reciprocal altruism argument. Trivers showed how animals can cooperate with unrelated individuals, as long as cooperation is reciprocated in the future with sufficient probability. Animals have the "flight, freeze, or fight" instinct, as do humans, but human

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[19] Richard W. Wrangham, *Catching Fire: How Cooking Made Us Human* (New York: Basic Books, 2009), pp. 168-169.

intelligence gives us a greater repertoire of behavior: flight, freeze, fight, or cooperate—with the expectation that cooperation will be reciprocated.

Nevertheless, the option of cooperating with outsiders is relatively new in human evolutionary history, and so the central point remains: humans and other animals need to be able to assess the threats posed by outsiders quickly, so they know how to behave to protect themselves and their relatives. Do they cooperate, flee, or attack? The in-group/out-group distinction is one solution that developed through evolutionary adaptation.

I. A. Xenophobia

Evolutionary theory allows us to explain why xenophobia evolved in humans. Xenophobia is also found in nonhuman animals. Indeed, most species aggress against conspecifics, and, as many dog and cat owners know from observation, most are territorial.[20] The near universality of these behaviors suggests that they evolved in animals in the distant past. The empirical

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[20] A good introduction to xenophobia in animals is Charles H. Southwick, et al., "Xenophobia among Free-Ranging Rhesus Groups in India," in Ralph L. Holloway, ed., *Primate Aggression, Territoriality, and Xenophobia: A Comparative Perspective* (New York: Academic Press, 1974), pp. 185-209. Also see Holloway, "Introduction," in *Primate Aggression, Territoriality, and Xenophobia*, pp. 1-9, 7; and Fred H. Willhoite, Jr., "Evolution and Collective Intolerance," *The Journal of Politics*, Vol. 39, No. 3 (August 1977), pp. 667-684, 674-675. For explicit application to humans see Ralph B. Taylor, *Human Territorial Functioning: An Empirical, Evolutionary Perspective on Individual and Small Group Territorial Cognitions, Behaviors, and Consequences* (Cambridge: Cambridge University Press, 1988).

evidence for this is widely documented by ethologists and biologists and is so strong as to be overwhelming.[21] In fact, the amygdala, one of the brain's most ancient neurological structures and common to many animals, is involved in fear-related behaviors. Ethologist David Barash has found in his study of humans and other animals that "both…tend to reserve their most ferocious aggression toward strangers."[22] Biologist John Fuller concludes: "xenophobia is as characteristic of humans as of ants, mice or baboons."[23] Physiologist Jared Diamond argues that "xenophobic murder has innumerable animal precursors," and humans are unique in being the only species to have developed the weapons necessary for killing at a distance.[24] After a comprehensive review of xenophobia in animals, Johan van der Dennen concludes that it "is a widespread trait throughout the animal

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[21] For an excellent survey of this literature see Johan van der Dennen, "Ethnocentrism and In-Group/Out-Group Differentiation," in Vernon Reynolds, Vincent S.E. Falger, and Ian Vine, eds., *The Sociobiology of Ethnocentrism: Evolutionary Dimensions of Xenophobia, Discrimination, Racism, and Nationalism* (London: Croom Helm, 1987), pp. 1-47, 20-22. Also see J.A.R.A.M. van Hooff, "Intergroup Competition and Conflict in Animals and Man," in J. van der Dennen and V. Falger, eds., *Sociobiology and Conflict: Evolutionary Perspectives on Competition, Cooperation, Violence and Warfare* (London: Chapman and Hall, 1990), pp. 23-54.

[22] David P. Barash, *Sociobiology and Behavior* (New York: Elsevier, 1977), p. 219.

[23] John L. Fuller, "Genes, Brains, and Behavior," in Michael S. Gregory, Anita Silvers, and Diane Sutch, eds., *Sociobiology and Human Nature* (San Francisco: Jossey-Bass, 1978), pp. 98-115, 111.

[24] Jared Diamond, *The Third Chimpanzee: The Evolution and Future of the Human Animal* (New York: HarperCollins, 1992), pp. 220-221.

kingdom," one that helps to "maintain the integrity of the social group" and "ensures that group members will be socially familiar."[25]

While xenophobia is present in many animals, my central question is why the trait would also evolve and be maintained in humans. Why would fear of strangers and perceptions of them as threats exist in the repertoire of human behavior? Using inclusive fitness as a theoretical foundation, there are four reasons why evolving xenophobic behavior would contribute to fitness.

First, many anthropologists, archeologists, and historians surmise that humans lived in extended family bands that fought, and protected themselves, against rival human bands as well as against large carnivores or packs of them, such as wolves or hyenas. This behavior is well documented in humans and chimpanzees. This suggests that xenophobia was present in our common ancestor before humans and chimpanzees divided some four or five million years ago, although it has not yet been demonstrated since such evidence concerning our common ancestor is absent at this time.[26] However,

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[25] Johan Matheus Gerradus van der Dennen, *The Origin of War: The Evolution of a Male-Coalitional Reproductive Strategy* (Groningen, Netherlands: Origin Press, 1995), pp. 457-458.

[26] See Frans B. M. de Waal, "Introduction," in Frans B. M. de Waal, ed., *Tree of Origin: What Primate Behavior Can Tell Us about Human Social Evolution* (Cambridge, Mass.: Harvard University Press, 2001), pp. 1-8, 2; and Alison

in the Pliocene, Pleistocene, and Holocene conditions in which humans evolved, strangers were unlikely to be related to others living nearby, and were, instead, likely to be competitors for scarce resources and, perhaps, also a threat to group cohesion and survival.[27]

Having thoughtfully reflected on the problem of xenophobia and conflict in human society, Diamond argues that competition for territory or other scarce resources is a central cause of xenophobia in humans: "Humans compete with each other for territory, as do members of most animal species. Because we live in groups, much of our competition has taken the form of wars between adjacent groups, on the model of the wars between ant colonies."[28] He continues, "as with adjacent groups of wolves and common chimps, relations of adjacent human tribes were traditionally marked by xenophobic hostility," which was "intermittently relaxed to permit exchanges of mates (and, in our species, of goods as well)."[29]

Second, xenophobia would be a mechanism of defense against communicable diseases, often caused by contact with strangers as the

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Jolly, *Lucy's Legacy: Sex and Intelligence in Human Evolution* (Cambridge, Mass.: Harvard University Press, 1999), p. 159.

[27] Noting the importance of limited resources is Joel R. Peck, "The Evolution of Outsider Exclusion," *Journal of Theoretical Biology*, Vol. 142, No. 4 (22 February 1990), pp. 565-571.

[28] Diamond, *The Third Chimpanzee*, p. 220.

[29] Diamond, *The Third Chimpanzee*, p. 220.

diseases they carried encountered a virgin population.[30] I do not argue that these humans understood modern epidemiology. Of course they did not. But, they were intelligent. They did recognize the powerful effect of disease, judging from the history of European encounters with the rest of the world during the Age of Discovery and after. Indigenous peoples in Africa, Asia, and the New World understood quickly that disease affected the Europeans themselves. They could comprehend quite easily that Europeans died in considerable quantities in Africa and Asia. In the New World, Native Americans comprehended rapidly that Europeans and their African slaves brought pestilence even if they did not realize how diseases were transmitted.

Moreover, the cultural histories of many societies are rife with stories about a stranger or groups of strangers bringing pestilence. In these traditions, a stranger or strangers were associated with harm or evil that affected the community. No doubt this was accurate on occasion because a stranger would bring disease to a virgin population, which occurs even today. Primitive peoples with no understanding of disease and its prevention would associate illness with malevolent spirits acting through the stranger, or witchcraft. Of course, strangers would also be affected by diseases from the

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[30] The powerful effect of disease on human society is documented in William H. McNeill, *Plagues and Peoples* (Garden City, N.Y.: Anchor Press, 1976).

populations they encountered, but being new to a community and perhaps transient, their suffering would less likely be recorded or included in an area's folklore or cultural history.

Third, because humans are the only species to kill conspecifics at a distance, fear of strangers may have been accelerated or become especially important as warriors introduced weapons of ever-increasing technological sophistication: the spear, the atlatl, and ultimately the bow and arrow. Armed with such weapons, even a single individual, to say nothing of a group, would greatly increase the threat posed to another individual, especially if he were separated from his group. Weapons probably brought about the first revolution in warfare by allowing one human to kill another, even a stronger one, with less risk to himself since he no longer had to engage the other in close proximity with his fists or even a club. Given this technology and the necessity of hunting and foraging for survival, it would be beneficial to stay in one's group if possible so the members could help fight off an attack. It would be equally useful to be able to recognize group members and extra-group members quickly and from as far away as possible.[31]

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[31] Donald L. McEachron and Darius Baer, "A Review of Selected Sociobiological Principles: Application to Hominid Evolution II. The Effects of Intergroup Conflict," *Journal of Social and Biological Structures*, Vol. 5, No. 2 (April 1982), pp. 121-139, 134.

Fourth, a stranger might also pose a threat to one's position in the dominance hierarchy. As discussed above, most social mammals organize themselves in such hierarchies. Ethologists argue that these hierarchies evolve because they aid in the defense against predators, promote the harvesting of resources, and reduce intragroup conflict.[32] Hierarchies are needed largely because a species that lives communally has two choices: it can either accept an organization with some centralization of power, or engage in perpetual conflict over scarce resources, leading to potential injury and depriving the group of the benefits of a communal existence such as more efficient resource harvesting. The ubiquity of this social ordering strongly suggests that it contributes to fitness. Donald McEachron and Darius Baer suggest that strangers would have to find a place in the dominance hierarchy, which might entail conflict especially among those displaced by the inclusion of the new member.[33] Such readjustments are

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[32] See James L. Boone, "Competition, Conflict, and the Development of Social Hierarchies," in Eric Alden Smith and Bruce Winterhalder, eds., *Evolutionary Ecology and Human Behavior* (New York: Aldine de Gruyter, 1992), pp. 301-337; and K.E. Moyer, "The Biological Basis of Dominance and Aggression," in Diane McGuinness, ed., *Dominance, Aggression and War* (New York: Paragon House, 1987), pp. 1-34, for a summary of the ethological argument on this point.

[33] Donald L. McEachron and Darius Baer, "A Review of Selected Sociobiological Principles: Application to Hominid Evolution II," pp. 134-135.

certainly possible, although cleavages or internecine conflict in the group might lead some to seek the stranger as an ally.

Given these conditions, humans would consider other humans a threat and thus would rarely tolerate strangers. This low tolerance of strangers, or xenophobia, contributed to fitness and thus spread. As human communities grew larger, multiple groups would have reproduced, some of which containing genotypes that resulted in an increased suspicion of strangers. These genotypes would increase fitness by increasing the survival of the group over time. Like warfare, however, and indeed like much of human behavior, xenophobia may be augmented or weakened by psychological and cultural forces.

For these reasons, xenophobia contributes to fitness and thus explains why humans may react negatively to people with different morphological features, such as facial traits or skin color. If the genetic difference is physical, then identification of difference is obvious, such as that between Africans and Europeans but, as Richard Alexander and Vincent Falger suggest, xenophobia can be triggered even by small differences between neighboring tribes or populations.

They argue that the ontogenetic flexibility of humans, such as morphological differences, even slight ones, is sufficient to cause

xenophobia.[34] While Alexander acknowledges that the causes of intense xenophobic reactions are complex, he explains, "it is possible that morphological differences alone make different countenances more or less communicative."[35] Then, the "differences between individuals of populations that diverged" because of geographic isolation or other factors that prevented exogamy, "could lead to xenophobic reactions."[36]

For example, Slavs typically have broad faces and Anglo-Saxons narrow ones; Tutsis tend to be tall, and Hutus short. Both Gérard Prunier and Christopher Taylor studied the 1994 genocide and found that the physical differences were tragically important because they allowed easier identification of Tutsis by the radical Hutus who were responsible for the genocide.[37] These differences facilitate a type of discrimination that could not exist between people who are morphologically very similar such as Irish

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[34] Richard D. Alexander, *Darwinism and Human Affairs* (Seattle: University of Washington Press, 1979), pp. 126-127.
[35] Alexander, *Darwinism and Human Affairs*, p. 127.
[36] Alexander, *Darwinism and Human Affairs*, p. 127.
[37] Gérard Prunier, *The Rwandan Crisis: History of a Genocide* (New York: Columbia University Press, 1997), pp. 5-9, 249; and Christopher C. Taylor, *Sacrifice as Terror: The Rwandan Genocide of 1994* (New York: Berg, 1999), pp. 40-41. Also see Pierre van den Berghe, *The Ethnic Phenomenon* (New York: Elsevier, 1981), pp. 73-74. Despite the physical differences, there were some cases of mistaken identity: "during the genocide some persons who were legally Hutu were killed as Tutsi because they looked Tutsi." Alison Des Forges, *Leave None to Tell the Story: Genocide in Rwanda* (New York: Human Rights Watch, 1999), p. 33.

Catholics and Protestants or Norwegians and Swedes, all of whom would likely have to listen to each other to determine who is who.

Still, visible or auditory cultural differences even between similar groups might provoke a xenophobic reaction. As Diamond explains, "xenophobia comes especially naturally to our species, because so much of our behavior is culturally rather than genetically specified, and because cultural differences among human populations are so marked."[38] As a result, "those features make it easy for us, unlike wolves and chimps, to recognize members of other groups at a glance by their clothes or hair style" and react negatively to them.[39]

I. B. Racism

From the evolutionary origins of xenophobia, we can understand the origins of racism. As Diamond observes, humans are experts at recognizing in-groups and out-groups due to our evolution in dangerous and resource-deprived conditions. The ability to recognize those genetically related, and those not, and to do so in an instant, is one of the sources of racism.

Before the advent of advanced neural imaging techniques, it was extremely difficult, or in some cases impossible, to identify the mechanisms

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[38] Diamond, *The Third Chimpanzee*, p. 220.
[39] Diamond, *The Third Chimpanzee*, p. 220.

underlying automatic biases that produce stigmas and stereotypes. Due to advances in brain imaging and neuropsychological methods, we are now able to "explore the role of specific neural regions and systems in complex social psychological phenomena such as a person's perceptions and racial prejudice."[40] Through an examination of the cognitive, affective, and behavioral structures associated with stereotyping and xenophobic responses, we can begin to build a more accurate theory of how these structures influence people's beliefs and expectations about out-groups.

According to Princeton professor of psychology, Susan Fiske, in order to understand the automatic behavior that can lead to intergroup conflict, such as prejudice, discrimination, fear, and mistrust, it is necessary to uncover the neural and biological mechanisms that trigger automatic biases. Implicit Association Tests combined with brain imaging studies of the amygdala have shown that intergroup bias occurs automatically under minimal conditions among relatively unprejudiced people.[41]

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[40] Belle Derks, Michael Inzlicht, and Sonia Kang, "The Neuroscience of Stigma and Stereotype Threat," *Group Processes and Intergroup Relations*, Vol. 11, No. 2 (April 2008), pp. 161-181, 164.

[41] Fiske, "What We Know About Bias and Intergroup Conflict, the Problem of the Century," pp. 123-128; L. Ashburn-Nardo, Voils, C. I., and Monteith, M. J., "Implicit Associations as the Seeds of Intergroup Bias: How Easily Do They Take Root?" *Journal of Personality and Social Psychology*, Vol. 81, No. 5 (2001), pp. 789-799; J. Ronquillo, Denson, T. F., Lickel, B., Lu, Z. L., Nandy, A.,

Bias in intergroup relations is an automatic response across populations because, as University of California Santa Barbara evolutionary theorists John Tooby and Leda Cosmides point out, coalitional aggression and prejudice—against different racial and ethnic groups—are evolutionary traits that improved overall fitness by enabling members of a coalition to gain access to competitive "reproductive enhancing resources" and detect coalitions and alliances.[42]

Furthermore, evidence from brain imaging studies suggests that the amygdala plays a role in perception and behavioral responses to individuals of a different race or ethnicity. In a study by Amherst College professor of psychology Allen Hart and his colleagues on how perceptions of out-group members differ from in-group members, white and black participants viewed photographs of unfamiliar white and black faces while undergoing functional magnetic resonance imaging (fMRI). For all participants, "the rate of

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and Maddox, K. B., "The Effects of Skin Tone on Race-Related Amygdala Activity: An fMRI Investigation," *SCAN*, Vol. 2, No. 1 (2007), pp. 39-44.

[42] John Tooby and Leda Cosmides, *The Evolution of War and Its Cognitive Foundations*, Institute for Evolutionary Studies Technical Reports 88-1 (1988); John Tooby, and Leda Cosmides, "Groups in Mind: The Coalitional Roots of War and Morality," in Henrik Høgh-Olesen, ed., *Human Morality and Sociality: Evolutionary and Comparative Perspective* (New York: Palgrave Macmillan, 2010), pp. 191-234; and Robert Kurzban, John Tooby, and Leda Cosmides, "Can Race be Erased? Coalitional Computation and Social Categorization," *Proceedings of the National Academy of Science*, Vol. 98, No. 26 (2001), pp. 15387-15392.

response habituation within the amygdala to face stimuli [was] dependent upon an interaction between the race of the subjects and the perceived race of the face stimuli."[43]

These results suggest that the amygdala exhibits greater responses to unfamiliar, and possibly threatening, faces, than to familiar faces. Given the amygdala's role in what has been called a "relevance detector," which includes, but is not limited to, fear-related stimuli, the prejudice and anxiety that occurs between in-group and out-group members during initial interactions can lessen over time through prolonged exposure.[44] Indeed, as a study by University of Pennsylvania psychologist Robert Kurzban and his colleagues found, by manipulating coalition formation and reestablishing coalition membership across racial cleavages, a person's identification can be changed to some degree.[45]

Additional research has provided considerable evidence for the related disease-avoidance hypothesis. To avoid disease, people should

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[43] A. J. Hart, Whalen, P. J., Shin, L. M., McInerney, S. C., Fischer, H., and Rauch, S. L., "Differential Response in the Human Amygdala to Racial Outgroup vs Ingroup Face Stimuli," *NeuroReport*, Vol. 11, No. 11 (2000), pp. 2351-2354, 2353.

[44] D. Sander, Grafman, J., and Zalla, T., "The Human Amygdala: An Evolved System for Relevance Detection," *Reviews in Neuroscience*, Vol. 14, No. 4 (2003), pp. 303-316.

[45] Kurzban, Tooby, and Cosmides, "Can Race be Erased? Coalitional Computation and Social Categorization."

maintain close ties with in-group members but maintain distance from out-group members who may possess novel pathogens. Consistent with this disease-avoidance hypothesis, pathogenic stimuli, as well as increased personal vulnerability to disease, are associated with ethnocentric, xenophobic, and racist attitudes. One study has found that accents are a key cue to group membership, and that individuals with a high degree of disease avoidance also have a strong reaction to foreign-accented English spoken in psychological tests. These studies strongly suggest that one reason racism evolved is for stranger-, and thus, pathogen-avoidance.[46]

In the West, great countervailing pressure through governmental and educational policies, film, media, blogs, and other elements of popular culture has been placed on individuals to combat racism. These measures have been very successful. However, in China not only are they absent, but governmental and educational policies along with popular culture emphasize the superiority of the Chinese people to the detriment of other races and ethnicities. As a consequence, the evolutionary drive of xenophobia,

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[46] Scott A. Reid, Jingquang Zhang, Grace L. Anderson, Jessica Gasiorek, Douglas Bonilla, Susana Peinado, "Parasite Primes Make Foreign-Accented English Sound More Distant to People Who Are Disgusted by Pathogens (But Not by Sex or Morality), *Evolution and Human Behavior*, Vol. 33, No. 5 (September 2012), pp. 471-478.

augmented by ethnocentrism as I will demonstrate below, translates directly into racist thought and action in China.

I. C. Ethnocentrism

Like xenophobia and racism, inclusive fitness explains why ethnocentrism would contribute to fitness in human evolutionary history, and thus evolve in humans.[47] Ethnocentrism is commonly defined as a belief in the superiority of one's own ethnicity. Yet, defined this way, ethnocentrism would seem to have no evolutionary foundation as a belief. After all, one may hold many beliefs—that the earth is flat or that it is round, or that Vladimir Putin is good for Russia or not—and these beliefs have no effect on fitness. So, it might seem that evolutionary theory has little explanatory traction for ethnocentrism.

Ethnocentrism is a collection of traits that predispose the individual to show discriminatory preference for groups with the closest affinities to the self. Now, the contribution of evolutionary theory becomes clear.[48] Here

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[47] Excellent accounts are found in van der Dennen, "Ethnocentrism and In-Group/Out-Group Differentiation," in *The Sociobiology of Ethnocentrism*, pp. 8-17, 37-47; Robin I. M. Dunbar, "Sociobiological Explanations and the Evolution of Ethnocentrism," in *The Sociobiology of Ethnocentrism*, pp. 48-59; and van den Berghe, *The Ethnic Phenomenon*, pp. 18-36.

[48] Ian Vine, "Inclusive Fitness and the Self-System," in *The Sociobiology of Ethnocentrism,* pp. 60-80. More formally, ethnocentrism is comprised of four discrete aspects of group behavior: In-group integration, the hyper-

evolutionary theory can explain why ethnocentrism is common among people: because it stems from inclusive fitness. Thus the phenomenon of ethnocentrism has its origins not merely in one's random beliefs or opinions, but in human evolution. Of course, even with its foundation in human evolution, ethnocentrism—like xenophobia and almost all behavior—is open to considerable environmental manipulation. It may be either suppressed or supported by cultural, religious, or political beliefs and authorities.[49]

I made this the basis for discussing the evolution of xenophobia, but will briefly restate the central arguments here. Since our genus *Homo* first evolved in the Pliocene, humans have favored those who are biologically related. In general, the closer the relationship, the greater the preferential treatment. The vast majority of animals behave in this way, and humans are no different. In a world of scarce resources and many threats, the evolutionary process would select nepotism, thus promoting the survival of the next generation. However, this process is relative. Parents are more willing to provide for their own children than for the children of relatives, or rarely for those of strangers.

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evaluation of the in-group, hostile relations between in-group and out-group, and derogatory stereotyping of out-group individuals and characteristics.

[49] Also making this point is Dunbar, "Sociobiological Explanations and the Evolution of Ethnocentrism," in *The Sociobiology of Ethnocentrism*, p. 56.

The essence of an inclusive fitness explanation of ethnocentrism, then, is that individuals generally should be more willing to support, privilege, and sacrifice for their own family, then their more distant kin, their ethnic group, and then others, such as a global community, in decreasing order of importance. That people are more willing to sacrifice for their family than for strangers or a larger community is obvious. In contrast, an individual like Mother Theresa is saintly. Her willingness to suffer and sacrifice for strangers throughout her lifetime is both noble and lamentable because her actions illustrate what we already know: few people are willing to sacrifice to help strangers who require great care due to endemic poverty and debilitating illness.

The in-group/out-group division is also important for explaining ethnocentrism and individual readiness to kill outsiders before in-group members. Irenäus Eibl-Eibesfeldt draws on psychologist Erik Erikson's concept of "cultural pseudospeciation," and says that in almost all cultures humans form subgroups usually based on kinship; these "eventually distinguish themselves from others by dialect and other subgroup characteristics and go on to form new cultures."[50] As an unfortunate result of

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[50] Irenäus Eibl-Eibesfeldt, "Us and the Others," in Irenäus Eibl-Eibesfeldt and Frank Kemp Salter, eds., *Indoctrinability, Ideology, and Warfare: Evolutionary Perspectives* (New York: Berghahn Books, 1998), pp. 21-53, 41.

this process, such in-groups tend to perceive the out-groups as increasingly distant, from distant cousins to foreigners with strange customs and languages. Ultimately they may even see them as less than human, as another species: animals.[51]

Distinguished Harvard biologist Edward Wilson also argues that ethnocentrism has a strong in-group/out-group component. Ethnocentrism is the "force behind most warlike policies," and he notes: "primitive men divide the world into two tangible parts, the near environment of home, local villages, kin, friends, tame animals, and witches, and the more distant universe of neighboring villages, intertribal allies, enemies, wild animals, and ghosts."[52] This "elemental topography makes easier the distinction between enemies who can be attacked and killed and friends who cannot. The contrast is heightened by reducing enemies to frightful and even sub-human status."[53]

Of course, while few scholars would doubt that ethnocentrism is a powerful force, we should not overestimate its power. It obviously can be

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[51] Eibl-Eibesfeldt, "Us and the Others," pp. 42-46. Also see Irenäus Eibl-Eibesfeldt, "Warfare, Man's Indoctrinability and Group Selection," *Zeitschrift für Tierpsychologie,* Vol. 60, No. 3 (1982), pp. 177-198.
[52] Edward O. Wilson, *On Human Nature* (Cambridge, Mass.: Harvard University Press, 1978), p. 111.
[53] Wilson, *On Human Nature*, p. 111.

offset or mitigated by other environmental pressures. In many examples from military history, men of the same ethnicity killed each other readily. Ethnic ties did not keep Confederate Gen. Cobb's mostly-Irish Georgia regiments (the 18th and 24th) from firing on and decimating the Union "Irish Brigade" (the 28th Massachusetts) at Marye's Heights during the battle of Fredericksburg in December 1862.

Naturally, it is equally true that ethnic hatred may be suppressed or even reconciled. The animus between the Scots and the English is well known; their shared history is filled with great conflicts that still resonate today in calls for Scottish independence. Nonetheless, for much of modern history, the Crown has repressed that hatred. Indeed, Scots have readily served the Crown even after its repression.

However, where ethnocentrism is not suppressed but encouraged, as in Chinese media, popular culture, blogs, and its educational system, there is the real danger that it thrives and is reinforced among the population and elites. The twin of ethnocentrism is racism. Racism is a phenomenon we find all too often in Chinese popular expressions and social and political beliefs. Unlike in the West, racism, xenophobia and ethnocentrism are allowed to flourish in China, and are not offset by countervailing pressures as in Western societies.

It would be a mistake to underestimate the power of racism, xenophobia, and ethnocentrism. When an individual considers whether to support a larger group, several metrics are available. One of these—and I stress only one—is ethnocentrism, a continuation of one's willingness to sacrifice for one's family because of the notion of common kinship. As I discussed above, the ways humans determine their relations with unrelated individuals are complex, but the key factors are physical resemblance, as well as environmental causes like shared culture, history, and language.

All of these metrics are very significant in China. This is why we should expect the Chinese "family," composed of broad groups of agnates, to think of itself apart from other nations in international politics while always favoring the "family" over outsiders.

In this section, I have shown that in-group/out-group distinctions like ethnocentrism and xenophobia are not quirks of human behavior in certain settings. Instead, they are systematic and consistent behavioral strategies, or traits. They apply to all humans, whether Chinese or American. These traits are common across mammals in general and primate species in particular, demonstrating deep evolutionary roots. They are widespread because they increased survival and reproductive success and were thus favored by natural selection over evolutionary history. The evolutionary origins and

cognitive mechanisms underpinning them were laid down in an environment very different from the one in which we now live, but they persist because our brains, which evolved over several million years, have not changed to keep pace with the rapid sociological and technological advances of the last few centuries.

Human decisions are not rational because they are not generated by a computer—purposefully built for objective decision-making. Human decisions are more like an ancient computer that has been permanently pre-programmed, sometimes in ways that seem obstructive or self-defeating to modern tasks. As much as we would like to install new, more efficient, software we cannot. Instead, we proceed using the pre-existing jumble of wiring that was laid down for different purposes, and with behavioral heuristics for implementing that wiring that were selected in another age. The only way to make predictions for the real-world outputs of our ancient brains is to understand the wiring and software that make it up, and that understanding can only come from evolutionary biology.

This study recognizes that humans are influenced by such significant forces as culture, norms, rational calculation, and morality. Nevertheless, overwhelming evidence shows that people *also* behave in ways predictable from the biological knowledge outlined above. These behavioral

mechanisms will shine through culture and conscious thought with differing strengths depending on the context. My contention is that significant parts of political behavior, and specifically Chinese behavior, lack convincing explanations, analytical power, and predictive ability because basic but powerful, biological principles are currently ignored in the vast literature about China by Sinologists.

Chapter Two

The Historical and Cultural Causes of Chinese Racism

> "Have you heard about the origins of the world's human races? This is a story unique to us [Chinese] people. Before, when there was no trace of man on earth, Tai Bai [太白] decided to create mankind. He used clay, just as we make pottery or porcelain, and after having molded it into a human figure, he put it into the kiln. The first one was fired too long, and was badly burnt: it was all black! This was not so good, and Tai Bai threw it away, using all his strength, throwing it a long way. He threw it to Africa; hence afterwards everyone in Africa was black. As a result of this first failure, the second one was fired more carefully. It was allowed to bake only for a little while and then taken out of the kiln. Look: too white! This wasn't very good either, and Tai Bai again threw it away. This time, he did not throw it so far. He threw it to Europe, hence afterwards everyone in Europe was white. Experience now allowed the third one to be baked to perfection: not too long, not too short. Pretty good! Neither black nor white, but all yellow. Tai Bai was very satisfied, and put it down on the ground. Hence afterwards everyone in Asia was yellow." (*Taiwan Kejia suwenxue* [台湾客家俗文学][Folk literature of the Hakka in Taiwan], retold by Zhou Qinghua [周庆华] [Taipei: Dongfeng wenhua shuju, 1971], pp. 149-150.)

This chapter explains the Chinese attitude toward race and the proximate conditions of Chinese racism. Chapter One provided us with the understanding of why humans are often xenophobic, racist, and ethnocentric, and why these behaviors are easy to trigger. The environments in which humans evolved where ones of great resource scarcity, and so our ancestors

placed a premium on sharing with relatives rather than others. They also developed finely honed abilities to distinguish between those of the in-group, and those who did not belong. Thus, the racism, xenophobia, and ethnocentrism we find in the Chinese are not unique to them, but are common behaviors found worldwide and universally.

What is different are the social and cultural efforts made to combat the public occurrences and acceptance of these behaviors. Since the Civil Rights movement of the 1960s, Western states have been at the forefront of combating them. The process has been difficult, to be sure, but the progress in this area has been impressive. With regret, the Chinese have been among the last of the great powers to recognize the problem of racism and the need to guarantee civil liberties for all, regardless of race.

This chapter first considers the Chinese conception of race by examining the major cultural-religious and historical factors that affect it. Second, it evaluates the modern Chinese view of race by illuminating the racist thought of major Chinese thinkers in the contemporary period, as well as the impact of the racist Western view of China, "The Yellow Peril," common in the past. Finally, and very importantly, it discusses why China must be seen as one of the few racist states in international politics today.

I. The Chinese Conception of Race

The concept of "race," *zu* [族] (lineage, clan), *zhong* [种] (seed, breed, type, race), *zulei* [族类] (type of lineage), *minzu* [民族] (lineage of a people, nationality, race), *zhongzu* [种族] (breed of lineage, type of lineage, breed race), and *renzhong* [人种] (human breed, human race), in China has a long history. As London School of Economics historian Odd Arne Westad argues: "the Chinese had a value system they called "*Huayiguan* [华夷观 added by Thayer], meaning—in a cultural context—'Chinese superior, others inferior.' Over centuries this worldview had influenced the Chinese eye in seeing other peoples and their behavior. As a form of cultural ethnocentrism, it was probably stronger at the time than any similar European phenomenon, not least because it had been shared for half a millennium or more by large parts of the elites of China's immediate neighbors."[54]

Westad demonstrates that the Chinese had a perception of foreigners that varied greatly.[55] In general, they represented the empire as being at the center of three concentric circles. Immediately outside the center were the peoples and countries on the edges of China—those colonized and those influenced by Chinese civilization. The second circle contained those who

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[54] Odd Arne Westad, *Restless Empire: China and the World Since 1750* (New York: Basic Books, 2012), p. 31.
[55] Westad, *Restless Empire*, p. 31.

were outside Chinese culture, but still, at least occasionally, paid tribute to the emperor. The third included those who had no relationship with China and its civilization, unknown peoples of whom only a few accounts existed. Those farthest away from the empire were represented as the most strange and barbaric. Tales of madcap beliefs, sexual perversions, and cannibalism abounded. "Outer barbarians" smelled bad, dressed inappropriately, and were strange in appearance. In some cases these "wild men" were closer to animals than to humans. For such peoples, the Qing state believed in the ancient saying of "leaving them outside, not inviting them in, not governing or educating them, not recognizing their countries."[56]

Race has always had a central place for the Han Chinese. As foremost Sinologist Frank Dikötter argues, "race was the catalyst of [Chinese] group homogeneity; it created clear boundaries by binding the ingroup and distancing the outgroup."[57] As nationalist leader Zhou Jung [*邹容*] argued in 1903, "When men love their race, solidarity will arise internally, and what is outside will be repelled. Hence, to begin with, lineages were united and other lineages repelled; next, villages were united and other villages repelled; thereafter, tribes were united and other tribes were repelled; finally, the

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[56] Quoted in Westad, *Restless Empire*, p. 31.
[57] Frank Dikötter, *The Discourse of Race in Modern China* (London: Hurst, 1992), p. 118.

people of a country became united, and people of other countries were repelled;" and he continued: "This is the general principle of the races of the world, and also a major reason why races engender history. I will demonstrate to my countrymen, to allow them to form their own impression, how our yellow race, the yellow race of which the Han race is part, and I refer you to the history of China, is able to unite itself and repel intruders."[58]

Although my focus is on the Han Chinese, Dikötter submits that there are no major racial differences between the Han and Manchus with respect to racial considerations of outgroups.[59] The phenotype of most minorities was different, but not significantly different from the Han Chinese. Nevertheless, they were seen as such by the Han, who characterized them with stereotypes about the supposedly bestial origins of the minorities and their bizarre cultural practices and religious beliefs. The Chinese divided the "yellow race" into two main branches, "the races of China," including the Han, the Tibetan

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[58] Zhou Jung, *The Revolutionary Army: A Chinese Nationalist Tract of 1903*, trans. by J. Lust (Paris: Mouton, 1968), p. 106.
[59] Han perceptions have been well treated by Dikötter's scholarship, but see, in addition, Thomas Heberer, *China and Its National Minorities* (Armonk, NY: M.E. Sharpe, 1989); and June T. Dreyer, *China's Forty Millions: Minority Nationalities and National Integration in the People's Republic of China* (Cambridge, Mass.: Harvard University Press, 1976).

and Cochinese races; and "the races of Siberia," comprised of the Mongolian, the Tungus, and the Turkic peoples.[60]

I. A. Chinese Religious-Cultural and Historical Conceptions of Race

In this section, I demonstrate how attitudes about the race, skin color, or physical characteristics of the Han and others are an ancient component of Chinese civilization. There are two major factors that influence Chinese conceptions of race. The first is the traditional Chinese religious view of race. The second is the unfortunate fact, at least from the Chinese perspective, that China was conquered and occupied by non-Chinese peoples. This was traumatic and reinforced the Han concepts of race and nationalist feelings as well as generating a strong Han consciousness of biological or racial unity.

Throughout their history, the Chinese have seen themselves as unique and superior to other peoples. The Han were part of the same family, even if there were regional differences among them. But for the Chinese, there was a sliding scale of inferiority, with Manchus, and later, whites, being far "better" than other inferior peoples. These views have been reinforced by centuries of religious-cultural and historical influences and so it is no surprise that the Chinese have a long tradition of racism directed against minorities. Lamentably, this remains today.

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[60] Zhou, *The Revolutionary Army*, pp. 106-107.

I. A. 1. The Impact of Confucianism, Buddhism, and Taoism

When considering traditional Chinese attitudes toward race, we must start with a succinct evaluation of how the major traditional Chinese religions, Confucianism, Buddhism, and Taoism, consider the topic. In traditional Confucian thought, the Five Classics are the ancient books which comprise the syllabus for the disciples of Confucius [孔夫子], namely the *Shujing* [*书经*] (Book of History), the *Shijing* [*诗经*] (Book of Odes), the *Yijing* [*易经*] (Book of Changes), the *Liji* [*礼记*] (Book of Rites), and the *Chunqiu* [*春秋*](Spring and Autumn Annals).

These classics texts were intended to describe and assess the world, or *tianxia* [*天下*], or "all under heaven." This world was perceived to be a homogeneous entity named "great community" (*datong* [*大同*]). The absence of any consideration of cultural pluralism or diversity implicit in this universe has been called a "political solipsism," the lack of recognition of any other notable or equal political system.[61] The ruling elite in China, dominated by the assumption of its cultural superiority, measured foreigners according to metrics by which those who did not follow "Chinese ways" were considered barbarians.

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[61] Hsiao Kung-chun, *A History of Chinese Political Thought* (Princeton, N.J.: Princeton University Press, 1979), p. 24.

Later, this worldview was modified. The change originated mainly in the overwhelmingly influential *Gongyang* [公羊] school (commentaries on Confucius' *Chunqui*), and produced a major effect. It favored an emphasis on cultural continuity, or the ability of foreigners to be Sinified, reflecting the Chinese worldview, while reducing the racial component of identity. This was the origin of the theory of "using Chinese ways to transform the barbarians" (*yongxiabianyi* [*用夏变夷*]). This school argued that the barbarian could be culturally absorbed—*laihua* [*来华*], "come and be transformed," or *hanhua* [*汉化*], "become Chinese." The *Chunqiu*, a chronological history of the Spring and Autumn period (722-481 BC), traditionally attributed to Confucius, hinged on the idea of cultural assimilation.

But this idea was not widely accepted in Chinese thought, and there remained a significant—even dominant—exclusionist view.

The most salient aspect of the exclusionist approach is a belief in the incompatibility between the fundamental natures between the Chinese and the barbarian. The origin of this belief is usually traced back to classic Chinese texts, particularly to a passage in the works of Mencius [孟子] (372-289? BC). In the passage, Mencius reproaches Chen Xiang for having abandoned Chinese ways and learning: "I have heard of men using the

doctrines of our great land to change barbarians, but I have never heard of any being changed by barbarians."[62] The nature of the Chinese was regarded as impermeable to the evil influences of the barbarian. For the Chinese, no retrogression was possible. Only the barbarian might eventually change by adopting Chinese ways. The reverse was unthinkable for the Chinese.

It is notable that Mencius' comment was made at a time when the efflorescence of Buddhism threatened the sense of cultural superiority of the ruling class. Buddhism was seen as a threat to traditional practices and generated considerable resistance.

As the prominent enemy of Buddhism Gu Huan [顾欢] (390-453) argued in his treatise *Yixialun* [*夷夏论*] (*About the Chinese and the Barbarians*), Buddhism was inferior to the Chinese religion of Daoism [道教] (Taoism) because of its foreign origins: "Buddhism originated in the land of the barbarians; is that not because the customs of the barbarians were originally evil? The Tao originated in China; is that not because the habits of the Chinese were originally good?....Buddhism is not the way for China, Taoism is not the teaching of the western [i.e. Indians, not the West] barbarians. Fishes and birds are of different origins, and never have

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[62] Quoted in Dikötter, *The Discourse of Race in Modern China*, p. 18.

anything in common. How can we have Buddhism and Taoism intermingle to spread to the extremities of the empire."[63]

The comparison of Buddhism and Daoism to fishes and birds underlined a basic discontinuity between the two religions. Daoism was seen as the organic, or inherently Chinese religion. Daoism's main thinker is Lao Tzu [老子]. Its main work is *Tao Te Ching* [*道德经*]. Daoism is difficult to classify, as it refers to various traditions that, when considered collectively, essentially constitute a Chinese folk religion. Certain strains emphasize ancestor worship and the immediate presence of the supernatural, others are more elite and philosophical, while others still consist of a more organized religious doctrine.

The Dao means "the way," but that term can be applied to a wide variety of concepts, as evident in the military texts that refer to the Dao as anything from the art of ruling to manipulation of terrain. Generally, Dao refers to a spiritual ideal that can be divined and attained by paying attention to natural phenomena. It is represented by the famous yin and yang: the contrary but complementary forces that drive the motion of the universe. Divination, ritual sacrifice, and fasting are common means of "practicing" Daoism. It is very difficult to summarize such a diffuse system, but for the

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[63] K. Ch'en, "Anti-Buddhist Propaganda during the Nan-Ch'ao," *Harvard Journal of Asiatic Studies*, Vol. 15 (1952), p. 172.

purposes of analyzing Daoism to better understand the military texts, one can manipulate material forces in such a way as to attain a spiritual ideal, since spirits drive the material world. Wisdom, humility and compassion are the chief virtues by which one can ascertain the Dao.

While purportedly universal, there is a strong ethnocentric idea in Daoism that makes it solely for the Chinese and not for others. This should be no surprise, as many of the world's great religions have this: a sense of "ownership" for the first peoples who adhere to it, one might consider the belief that Arabs "own" Islam, or the Greeks Orthodox Christianity. The idea of a fundamental difference between the natures of Chinese and Indians had been put forward by the Daoist He Chengtian [何承天] (A.D. 370-447): "The inborn nature of Chinese is pure and harmonious, in accordance with altruism and holding to righteousness—that is why the Duke of Chou and Confucius explain to them the doctrine of (original unity of) nature and (differentiation by) practice. Those people of foreign countries are endowed with a hard and obstinate nature, full of evil desires, hatred and violence."[64]

The Daoist work *Sanpolun* [*三破论*] attacked Buddhism and "foreign" beliefs even more violently, appealing for the extermination of the barbarians. "The barbarians are without benevolence, unyielding, violent

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[64] Quoted in Dikötter, *Discourse of Race in Modern China*, p. 19.

and without manners, and are no different form birds and beasts….They are also coarse and uncivilized. Desiring to exterminate their evil progeny, Lao-tzu ordered the males not to take wives, and the females not to take husbands. When the entire country submits to the teaching of Lao-tzu, they will be exterminated as a matter of course."[65]

This train of thought reappears throughout Chinese history, particularly when the elite's position was menaced by a foreign creed or alien conquerors. The political threat posited by alien invasion or foreign relations challenged the ideals of cultural or religious universalism.

I. A. 2. The Impacts of Invasion

The major invasions of China have had a momentous impact on how the Chinese see race. For a people as xenophobic and ethnocentric as the Chinese, conquest by an ethnically or racially distinct people has been shattering for their worldview and compelled the examination of the Chinese themselves, as well as the conquering people. Two consistent themes in Chinese accounts are that the conquering peoples were either "near-Chinese" in race, and thus Chinese defeat may be explained away, or possessed superior technology that permitted their conquest of China.

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[65] K. Ch'en, *Buddhism in China: A Historical Survey* (Princeton, N.J.: Princeton University Press, 1964), pp. 137-138.

Ethnic groups that conquered and ruled China include the Jin (1115-1234), the Mongols (1280-1368), and the Manchus (1644-1911). This study does not intend to discuss the Chinese reaction to these invasions in a systematic way, but only to emphasize the importance of race and racial identity made by the Chinese themselves, in their own discussions of how they define themselves as a people.[66]

Over the course of four centuries, ever larger parts of China were conquered by Inner Asian tribal peoples, culminating in 1276 with the Song surrendered to China's most successful conquer, the Mongols, who incorporated all of China into their territory. Each of the three dynasties of conquest—Liao (907-1125), Jin (1125-1234), and Yuan (1215/1276-1368)—built on the achievements of its predecessors to dominate the Han Chinese. What is unique about these dynasties is that they attacked China not just for material benefits, as had the Uighurs in the late Tang, but also occupied Chinese territory. The Khitans' Liao dynasty occupied a strip along the northern edge of China proper. The Jurchens' Jin (gold) dynasty, defeated the Liao, and continued to conquer all of northern China. The Mongols' Yuan

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[66] An excellent introduction to the traditional Chinese worldview and the tributary system upon which it is based remains John K. Fairbank, ed., *The Chinese World Order: Traditional China's Foreign Relations* (Cambridge, Mass.: Harvard University Press, 1968).

dynasty, after defeating the Jin, were able to conquer all of China, and beyond, extending their reach into Burma and throughout Southeast Asia.

Although the Liao period is significant because it was the first time China elected to appease and accommodate a foe. In the historic Treaty of Shanyuan, January 19, 1005, the Song agreed to provide the Liao with an annual payment of 200,000 bolts of silk and 100,000 taels (approximately ounces) of silver. In absolute terms, these payments were not especially burdensome, probably equal to revenue of one or two prefectures, or less than one or two percent of the cost of waging war.[67] As a face-saving device, the Chinese did not call this tribute, which would have implied Khitan superiority, but rather "economic gifts."[68] The Chinese today see the Treaty as a mistake, a cowardly and humiliating arrangement that reflected the military weakness and incompetence of the Song court.

For the purposes of this study, the Jurchen's Jin empire is the most significant because it was the first time in modern Chinese history that significant Chinese land was lost through invasion. The Jurchen people originated in the mountains of eastern Manchuria. In the early twelfth century, Aguda, of the Wanyan clan, formed a confederation of Jurchen tribes,

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[67] Valerie Hansen, *The Open Empire: A History of China to 1600* (New York: W.W. Norton, 2000), p. 307.
[68] Hansen, *The Open Empire*, p. 307.

proclaimed it the Jin dynasty, and invaded the north of China in 1126.[69] The Song excelled in art, philosophy and literature, eminent Sinologist John Fairbank called their rule "China's greatest age."[70] The Song dynasty has also been called "the Age of Confucian Rule."[71] They were responsible for three of humanity's greatest inventions—gunpowder, the compass, and printed books. Yet, despite their considerable achievements, the Song were militarily weak. Epithets such as "perennially weak and unable to rise" (*ji ruo bu zhen*) [*积弱不振*] and "emphasizing civility and belittling martialism" (*zhong wen qing wu*) [*重文轻武*] are commonly attached to the Song dynasty.[72] The Song, unable to resist the nomad cavalry and their skill in siege craft due to their incorporation of Chinese experts, had to retreat south of the Yangzi. The Song retained the Yangzi valley and all land to the south.

The barbarian success placed the Song in a terribly difficult position, and is a historical situation that holds important implications for analysts of Chinese strategy and DoD decision-makers today. In a successful effort at self-preservation, they adopted conciliatory policies toward the Jurchen Jin

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[69] Patricia Buckley Ebrey, *Cambridge Illustrated History of China*, 2nd ed. (New York: Cambridge University Press, 2010), pp. 136-185.
[70] John K. Fairbank, *China: A New History* (Cambridge, Mass.: Harvard University Press, 1992), this is the title of Chapter 4.
[71] Dieter Kuhn, *The Age of Confucian Rule: The Song Transformation of China* (Cambridge, Mass.: Harvard University Press, 2009).
[72] Yuan-Kang Wang, *Harmony and War: Confucian Culture and Chinese Power Politics* (New York: Columbia University Press, 2011), p. 34.

empire. In a remarkable event, they discarded the traditional tribute system. For the first time in Chinese history, neighboring states were accepted as equals, and the Jurchen as formal superiors—the Song had become a vassal state of a non-Chinese dynasty, the Jin. Due to their weakness, officials from the tenth to the thirteenth centuries pursued a realistic and pragmatic foreign policy.

From the Chinese perspective, the unfortunate, if realistic, appraisal of the balance of power did not prevent officials from continuing to despise foreigners as "barbarians." Indeed, given the powerful xenophobic, racist, and ethnocentric views of the Chinese throughout history, it would be unthinkable for it to be otherwise. As Sinologist Herbert Franke writes, "the principle of reciprocity in diplomatic relations with these states was nothing more than an enforced concession, which was but grudgingly granted because of the Sung's military weakness."[73] Internal official records and private correspondence made frequent xenophobia references to the Jin as

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[73] Herbert Franke, "Sung Embassies: Some General Observations," in Morris Rossabi, ed., *China Among Equals: The Middle Kingdom and Its Neighbors, 10th-14th Centuries,* (Berkeley: University of California Press, 1983), pp. 116-148, 121.

well as other foreigners. The terms used included "slaves," "caitiffs," "barbarians," and "animals."[74]

At the same time, this equality and reciprocity proved to be a stable aspect of Song foreign relations, and could have easily been continued. Song diplomacy was flexible and allowed considerable adaptation to the frequently changing circumstances in international politics. Differences in political power could be expressed by a corresponding difference in pseudo-familial status. The lower the power and prestige of the Song, the lower its adopted family status in relation to the foreign ruling family and vice versa.[75]

While not the first to conquer significant portions of Chinese territory, the Mongols were the most successful because they conquered all of it by 1279.[76] The Mongols ruled China as the Yuan dynasty. Not surprisingly, Chinese feeling toward the Mongols was laced with bitter denunciations of the origin of the Mongols. Most remarkable was a bitter denunciation by Zheng Sixiao [郑思肖] (1239-1316). His works describe the Mongols as "of a

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[74] Franke, "Sung Embassies," p. 121; and Tao Jing-shen, "Barbarians or Northerners: Northern Sung Images of the Khitans," in Rossabi, ed., *China Among Equals*, pp. 66-86; 71-76.
[75] Franke, "Sung Embassies," p. 122.
[76] A useful study of the Southern Song dynasty's reaction to the Mongol invasion is Wang, *Harmony and War*, pp. 95-100.

non-human origin," (*fei renlei*) [非人类] and compared them to "dogs and goats."[77]

This tone continued under the Ming dynasty, which succeeded the Yuan in 1368.[78] Fang Ziaoru [方孝儒] also made a categorization between the Chinese and barbarians: "To elevate them to a position above the Chinese people would be to lead the world to animaldom. If a dog or a horse were to occupy a human's seat, even small boys would be angry and take a club to them…why? Because the general order would be confused."[79]

These sentiments were again expressed in the Chinese attitude toward the Manchu and the Qing dynasty, which ruled China from 1644 to 1911. In the Qing dynasty, theoretically similar arguments were made. The Manchus were barbarians, and there was a high degree of racial animosity toward the new dynasty. Important officials refused to serve the new dynasty. They refuted any claim or idea that barbarians could be morally transformed or Sinified and emphasized a sense of shame in serving a barbarian ruler. According to their thought, there was a strict separation of

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[77] John D. Langlois, Jr. "Introduction," in John D. Langlois, Jr., ed., *China Under Mongol Rule* (Princeton, N.J.: Princeton University Press, 1981), p. 17.
[78] See Wang, *Harmony and War*, pp. 101-144.
[79] John Fincher, "China as a Race, Culture and Nation: Notes on Fang Hsiao-ju's Discussion of Dynastic Legitimacy," in D.C. Buxbaum and F.W. Mote, eds., *Transition and Permanence: Chinese History and Culture. A festschrift in Honour of Dr. Hsiao Kung-ch'uan* (Hong Kong: Cathay Press, 1972), p. 59.

barbarians and Chinese into distinct spheres, where each could live in accordance with his inborn character.

The strongest critic of alien rule was made by Wang Fuzhi [王夫之] (1619-1692). Wang supported traditional ideas about environmental determinism and the difference in nature of the barbarian in a theory about the isolated development of groups. His philosophical system was based on the concept of ether, and, in this, was not dissimilar to contemporary Western ontology. Ether was the creative force in the universe, which agglomerated to assume different forms and images in the world, each strictly differentiated by the concept of category (*lei*) [*类*]. Order in the universe was based on clear distinctions between categories, and had important political implications. If the Chinese did not separate themselves from the barbarians, the principle of ether would be violated, since they and the barbarians both belonged to different categories.

The Chinese were the "ether of Heaven" (*tianqi*) [*天气*], whereas the barbarians were "impure ether" (*jianqi*) [*贱气*]. The vital distinction between purity and impurity was implicit in the title of Wang's major work, entitled the *Yellow Book* (*Huangshu*) [*黄书*], published in 1656. In this work, Wang placed the color yellow (*huangse*) [*黄色*], one of the five pure colors, in opposition to mixed colors (*jianse*) [*间色*].

China was named the "Yellow Center" (*huangzhong*) [*黄种*]. Distinctions between the Chinese and the barbarians could not be blurred. Everything distinguished them: "The Chinese and the barbarians are born in different places, which brings about the differences in their atmospheres, which in turn are responsible for the difference in their customs. When their customs are different, their understanding and behavior are all different."[80]

The purity of categories (*qinglei*) [*清类*] had to be preserved by strict boundaries (*juezhen*) [*决阵*] and a specific territory (*dingwei*) [*定位*]. The territory of the Chinese race was the "middle region" (*zhongqu*) [*中区*] or "divine region" (*shenqu*) [*神区*]. "North of the deserts, west of the Yellow River, south of Annam, east of the sea, the ether is different, people have a different essence, nature produces different things. "[81] The first deputy of the emperor was to keep the boundaries between races clear: "Now even the ants have rulers who preside over the territory of their nests and, when red ants or flying white ants penetrate their gates, the ruler organizes all his own kind into troops to bite and kill the intruders, drive them far away from the anthill and prevent foreign interference."[82]

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[80] Quoted in Dikötter, *The Discourse of Race in Modern China*, p. 27.
[81] Quoted in Dikötter, *The Discourse of Race in Modern China*, p. 27.
[82] Quoted in Dikötter, *The Discourse of Race in Modern China*, p. 27.

II. Modern Chinese Views on Race

Chinese identity runs deep culturally and historically, and the development of the notion of "China" developed over millennia. Yet, this identity was very well established by the early 20th Century. Chinese racial attitudes are ancient and have become worse in the modern period. This section will explore this, and consider the racial views of major Chinese thinkers and political leaders, as well as Western conceptions.

II. A. Yan Fu's Racist Views

The Chinese philosopher Yan Fu [严复] (1854-1921, also Yen, but Yan is preferred) heavily influenced modern Chinese racial attitudes. His thought frequently recalls a century of humiliations inflicted on China by Western "barbarians," from the Opium wars to the burning of the imperial Summer Place in Beijing. Like many intellectuals in Asia, Yan awoke to the shock of the expansion of imperial Western power. "They will enslave us and hinder the development of our spirit and body, " he wrote in 1895. "The brown and black races constantly waver between life and death, why not the 400 million Yellows?"[83]

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[83] Quoted in Pankaj Mishra, *From the Ruins of Empire: The Intellectuals Who Remade Asia* (New York: Farrar, Straus, and Giroux, 2012), p. 148.

As with many of his Asian peers, Yan Fu became a Social Darwinist, obsessed with the question of how China could accumulate enough wealth and power to survive. As he wrote: "Races compete with races, and form groups and states, so that these groups and states can compete with each other. The weak will be eaten by the strong, the stupid will be enslaved by the clever…Unlike other animals, humans fight with armies, rather than with teeth and claws," and it is "the struggle for existence which leads to natural selection and the survival of the fittest—and hence, with the human realm, to the greatest realization of human capacities."[84]

Also in 1895, Yan Fu wrote, "We thought that of all in the human race none were nobler than we. And then one day from tens of thousands of miles away came island barbarians from beyond the pale, with bird-like language and beastly features, who floated in and pounded on our gates requesting entrance," and "when they did not get what they asked for, they attacked our coasts and took captive our officials and even burned our palaces and alarmed our Emperor. When this happened, the only reason we did not

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[84] Benjamin Schwartz, *In Search of Wealth and Power: Yen Fu and the West* (Cambridge, Mass.: Harvard University Press, 1964), p. 55.

devour their flesh and sleep on their hides was that we had not the power."[85]

He argued that the "greatest and most irreconcilable difference between Chinese and Westerner thinking is that the Chinese love the past and neglect the present, while the Westerners strive in the present to surpass the past. The Chinese believe that to resolve from order to disorder, from ascension to decline, is the natural way of heaven and of human affairs. The Westerners believe, as the ultimate principle of all learning and government, in infinite daily progress, in advance that will not sink into decline, in order that will not revert to disorder."[86]

For Yan Fu, the Westerners' secret was a belief in progress. The Chinese believed in cycles and got nowhere, while the Westerners believed in progress and progressed. For him, the West was stronger because "China trusts to fate; the Westerners rely on human strength."[87]

Yan Fu perceived interracial conflict to be new and worse than any conflict China had confronted previously, which were intraracial: "Now on earth there are only four great races: the yellow, the white, the brown, and

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[85] Quoted in James Reeve Pusey, *China and Charles Darwin* (Cambridge, Mass.: Harvard East Asian Monographs, 1983), p. 50.
[86] Yan Fu, "Lun shin pien chih chi," in Yan Fu, *Yen Fu shih wen hsuan (Selected poems and essays of Yen Fu)* (Peking: Chou Chen-fu, 1959), p. 3.
[87] Yan Fu, "Lun shin pien chih chi," p. 5.

the black….The Manchus, Mongolians, and Han Chinese of today are all of the yellow race….Therefore China from of old has been ruled by one race only. It has never actually fallen to an alien kind."[88] However, the future would involve struggle with the white race. Yan was not alone in his thought, as Zhou wrote around the same time: "The yellow and white races which are to be found on the globe have been endowed by nature with intelligence and fighting capacity. They are fundamentally incapable of giving way to each other. Hence, glowering and poised for the fight, they have engaged in battle."[89]

In his study of Yan Fu's thought, Sinologist and intellectual historian James Reeve Pusey concludes that Yan Fu had a clear racial hierarchy in mind and this was a full-fledged intellectual prejudice against any race darker than the Chinese. In his list of races, Yan Fu wrote, "there are four main races on the earth: the yellow, the white, the brown and the black. The lowest is the black race…they are the so-called black slaves."[90]

Whites had waged a war against the Chinese using three weapons: "religion, to seize a country's people; soldiers, to seize its land; and commerce, to seize its wealth;" and if the West were not stopped, they would

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[88] Yan Fu, "Yuan ch'iang," in Yan Fu, *Yen Fu shih wen hsuan (Selected poems and essays of Yen Fu)* (Peking: Chou Chen-fu, 1959), p. 20.
[89] Zhou, *The Revolutionary Army*, p. 106.
[90] Yan Fu quoted in Pusey, *China and Charles Darwin*, p. 69.

swallow up China.[91] For Yan Fu, when the English and other colonists called the Chinese "barbarian," they sowed the seeds of the greatest national loss of self-confidence, Pusey argues, "the world has ever known. No people had every been more sure of themselves than the Chinese, and so no people were ever made more painfully unsure of themselves."[92]

II. B. Liang Qichao

Yan Fu heavily influenced many Chinese intellectuals, the most significant of which was journalist and intellectual Liang Qichao [*梁启超*]. For Liang, the intellectual spark for China's rebirth grew out of the recognition that the old Chinese order was not capable of generating the organizational and industrial power needed for survival in a ruthless international system dominated by the nation-states of the West.

As Liang argued in 1902, "our country's civilization is the oldest in the world. Three thousand years ago, Europeans were living like beasts in the field, while our civilization, its characteristics pronounced, was already equivalent to theirs of the middle ages."[93] Although Liang professed faith in common humanity and racial equality, he was quite adept at using racial

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[91] *Shih-wu pao*, (*Current Affairs*), (Taipei, 1967), Vol. II, p. 895.
[92] Pusey, *China and Charles Darwin*, p. 95.
[93] Joseph R. Levenson, *Liang Ch'i-ch'ao and the Mind of Modern China* (Cambridge, Mass.: Harvard University Press, 1959), p. 117.

slurs against "black men, brown men, and red men," which appeared regularly in his writings.[94] For Liang, the yellow and white races are wise; red and black are ignorant. Yellow and white are masters; red and black are slaves. Yellow and white are tight-knit groups; red and black are dispersed.[95]

"India's failure to rise," he wrote, is due to limitations of the race. All black, red, and brown peoples are in the micro-organisms of their blood and the slope of their brains is quite inferior to white men. Only the yellows and the white are not far removed from one another. Hence anything whites can do, yellows can do also."[96]

According to Liang, the great struggle for world domination would be between the Chinese and the whites. "Someday in the twentieth century, we Chinese will be the most powerful race in the world….The whites are arrogant and not up to the hardship. The blacks and browns are lazy and unintelligent. Therefore, except for us yellows, there is no race that could undertake such a task. North America and Australia today are areas for the white race's colonies. South America and Africa will someday be areas for the yellow race's colonies,…of that there is no doubt."[97]

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[94] Pusey, *China and Charles Darwin*, p. 97.
[95] Pusey, *China and Charles Darwin*, p. 131.
[96] Quoted in Pusey, *China and Charles Darwin*, p. 117.
[97] Quoted in Pusey, *China and Charles Darwin*, p. 313.

II. C. Sun Yat-sen's Racial Views

Sun Yat-sen [孙逸仙] was the second most important Chinese political leader of the 20th century. His impact on China is hard to underestimate, as is the remarkable, open period in the China he led.[98] Equally, he was a complex and Machiavellian leader. Sinologists Sidney Change and Leonard Gordon document the complexities of Sun Yat-sen's thought and the intricacies and flexibilities of his political life as he won support both from Germany and the Soviet Union, as well as his ambition to make China a great power, and the center of a pan-Asianist movement.[99]

However, at the core of Sun's thought was China and race. Sun claimed that China was a united nation inhabited by one people. He asserted that "China, since the Ch'in [Qin] and Han dynasties, has been developing a single state out of a single race," and that eventually "all names of individual people inhabiting China" would die out, thus uniting all minority nationalities

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[98] An excellent study of how democratic, socially tolerant, and economically free much of China was in the 1920s is Frank Dikötter, *The Age of Openness: China before Mao* (Berkeley: University of California Press, 2008). Some of the consequences of this are evaluated in Frank Dikötter, *Sex, Culture, and Modernity in China: Medical Science and the Construction of Sexual Identities in the Early Republican Period* (Honolulu: University of Hawai'i Press, 1997).
[99] Sidney H. Chang and Leonard H.D. Gordon, *All Under Heaven: Sun Yat-sen and His Revolutionary Thought* (Stanford, Calif.: Hoover Institution Press, 1991).

with the Han in a "single cultural and political whole."[100] He marveled that China was a nation "with such a prestige that small nations came to her and of their own free will demand to be annexed." He felt that minority nationalities considered it an honor to be part of China.[101]

Following the revolution in 1911, the Nationalists (KMT, GMT) adopted policies that reflected Sun Yat-sen's assimilationist views and independence movements were strongly opposed. As Sun wrote: "Considering the law of survival of ancient and modern races, if we want to save China and to preserve the Chinese race, we must certainly promote Nationalism….The Chinese race totals four hundred million people; of mingled races there are only a few million Mongolians, a million or so Manchus, a few million Tibetans, and over a million Mohammedan Turks. These alien races do not number altogether more than ten million, so that, for the most part, the Chinese people are of the Han or Chinese race with common blood, common language, common religion, and common customs—a single, pure race."[102]

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[100] Sun Yat-Sen, *San Min Chi I* [三民主义] [*The Three Principles of Democracy*], trans. by F. W. Price (Shanghai: The Commercial Press, 1929), p. 6; and Sun, *Memoirs of a Chinese Revolutionary: A Programme of National Reconstruction for China* (New York: AMS Press, reprint 1970), pp. 181-182.
[101] Chang and Gordon, *All Under Heaven*, p. 41.
[102] Sun Wen (Sun Yat-sen), *Sanminzhuyi* [三民主义] (The Three Principles of the People) (Shanghai: Shangwu yinshuguan, 1927), pp. 4-5.

Sun's worldview was dominated by the idea of confrontation between the yellow and white races. "Mankind is divided first into the five main races—white, black, red, yellow, brown. Dividing further, we have many su-races, as the Asiatic races—Mongolian, Malay, Japanese, Manchurian and Chinese….The greatest force is common blood," in politics and international politics.[103]

After Mongolia asserted its independence in 1911 with the fall of the Qing dynasty, Sun could not resign himself to the permanent separation of Mongolia from China, and in 1923, while negotiating for Soviet assistance, he extracted Soviet recognition of Mongolia as part of China. However, soon Soviet pressure and other power political realities forced Sun Yat-sen to modify his all-encompassing, sinocentric worldview. Under the influence of Comintern advisors, Sun accepted the principle of national self-determination as defined by Stalin.[104]

The Sinocentric views of Sun Yat-sen are common among most of the Chinese who harken to the unification of the Qin dynasty, the first imperial dynasty of China from 221 to 207 BC, or the territorial greatness of the Qing, the last imperial dynasty of China from 1644-1911, when they

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[103] Sun quoted in Dikötter, *The Discourse of Race in Modern China*, p. 125.
[104] Eric Hyer, "Sinocentricism and the National Question in China," in Susana Carvalho and François Gemenne, eds., *Nations and their Histories* (New York: Palgrave Macmillan, 2009), pp. 259-260.

conceptualized "China." Published in 1925, *Zhongguo sangdi shi* [*中国丧地史*] (*The History of China's Lost Territory*) continues to be cited as an example of the extensive territorial claims the Chinese make.

A chapter in the work entitled "Territory During the Halcyon Days of the Qing Dynasty," asserts that "areas inhabited by Han, Manchu, Mongols, and Muslims were already united" during the Qing dynasty, and argues that modern China should claim territories included in the Manchu empire as Chinese. According to the author of that chapter, there are two reasons for this: "First, the territory inherited by the Republic [of China] comes directly from all that was controlled by the Qing [dynasty] during its final days, and has undergone no change at present; and secondly, all areas inhabited by the Han, Manchu, Mongols, Moslems, and Tibetans are in fact unified, which was completed during the Qing."[105]

With Chiang Kai-shek's dominance of the KMT after Sun's death, China's attitude took on a hypernationalistic tone.[106] Although Chiang Kai-shek had fundamental ideological differences with the Chinese Communists,

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[105] B. Xie, *Zhongguo sangdi shi* [*中国丧地史*] (Shanghai: Zhonghua Shuju, 1925), p. 6. Quoted in Hyer, "Sinocentricism and the National Question in China," p. 260.

[106] This is well captured by Frank Dikötter, "Racial Discourse in China: Continuities and Permutations," in Frank Dikötter, ed., *The Construction of Racial Identities in China and Japan* (Honolulu: University of Hawai'i Press, 1997), pp. 12-33.

he was equally concerned with China's salvation and the unification of China as it was before the fall of the Manchu Qing dynasty. The "Provisional Constitution of the Political Tutelage Period," written in 1931, defined China in the broadest territorial terms: "The territory of the Republic of China consists of the various provinces and Mongolia and Tibet."[107] Mongolia had become independent with the fall of the Qing dynasty and Tibet was independent *de facto*, but not recognized as such by the KMT. The "Chinaness" of the minority peoples was assumed and any sense of independent identity was crushed.

For Chiang, the Japanese invasion represented the climax of a century of imperialism in China and the defeat of Japan would symbolize the end of an era of humiliation and the rebirth of a united China with the restoration of all lost territory.

These concerns were not only held by China; they were common throughout East and South Asia, as well as the Middle East. As the eminent historian of the intellectual history of Asia, Pankaj Mishra argues, Japan's leading journalist, Tokutomi Soho (1863-1957) argued in his bestselling 1886 book, *The Future of Japan*, laid out the likely costs of Japanese indifference to Westernization: "Those blue-eyed, red-bearded races will

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[107] *China Yearbook, 1934* (Shanghai: The North-China Daily News and Herald, 1934), p. 466.

invade our country like a giant wave, drive our people to the islands in the sea."[108] Yet, even by the 1890s, Japan's growing industrial and military might was provoking images in the West of the "Yellow Peril," and Russia's defeat by Japan demonstrated that Tokyo's efforts to catch up to the West had been spectacularly successful. "We are dispelling the myth of the inferiority of the non-white races," Tokutomi Soho declared, "with our power we are forcing our acceptance as a member in the ranks of the world's greatest powers."[109]

In Japan, the widespread contemporaneous belief of an inevitable race war, in which China and Japan would be regarded as sworn enemies of the West, was prominently advanced in the Japanese press in 1898 by Prince Konoe Atsumaro, who was the major proponent of Sino-Japanese cooperation for opposition to the West.[110]

Mori Ogai, one of the key Meiji intellectuals who contributed to the modernization of Japan through the introduction of Western culture and technology, made a related argument in 1903: "Like it or not we are fated to oppose the White race. Once this is realized, to study the Yellow Peril means

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[108] Quoted in Mishra, *From the Ruins of Empire*, p. 3.
[109] Quoted in Mishra, *From the Ruins of Empire*, p. 3.
[110] Douglas R. Reynolds, *China, 1898-1912: The Xinzheng Revolution and Japan* (Cambridge, Mass.: Council on East Asian Studies, Harvard University, 1993), pp. 10-11, 211.

to reconnoiter the lie of the enemy."[111] As a rationalist and admirer of much in Western culture, Mori was pained by the idea of racial conflict, and he seems to have retained a belief in the possibility of reconciliation.

Nevertheless, the assertion in his Waseda University lecture regarding the inevitability of racial conflict seems to have heightened race consciousness in Japan. It is one of the ironies of history that the sharpening of Japanese racial sentiments following exposure to Western ideas of race war ultimately came to have their most horrific consequences for the people of China. Intensified Japanese xenophobia also had a significant impact against Western powers, as well as before and during World War II.

Mishra captures well the essence of Tsushima, "Russia's humiliation seemed to negate the West's racial hierarchies, making the European presumption to 'civilize' the supposedly 'backward' countries of Asia….Japan had shown that Asian countries could find their own path to modern civilization, and its special vigour."[112] In South Africa, Gandhi drew a similar lesson from Russia's defeat: "When everyone in Japan, rich or poor, came to believe in self-respect, the country became free. She could give Russia a slap

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[111] Richard John Bowring, *Mori Ogai and the Modernization of Japanese Culture* (Cambridge: Cambridge University Press, 1979), p. 116.
[112] Mishra, *From the Ruins of Empire*, pp. 3-4.

in the face…In the same way, we must, too, need to feel the spirit of self-respect."[113]

In Cairo, Rashid Rida (1865-1935), whose work later served as an inspiration to Egypt's Muslim Brotherhood, wrote excitedly about the possibility of converting Japan to Islam, and turning the "Yellow Peril" of European imagination into a pan-Asian movement for liberation from infidels.[114] Speaking in 1924, Sun Yat-sen recalled the somnolent last decade of the nineteenth century when the "colored races in Asia, suffering from the oppression of the Western people, thought that emancipation was possible. Men thought and believed that European civilization was a progressive one—in science, industry, manufacture, and armament—and that Asia had nothing to compare with it. Consequently, they assumed that Asia could never resist Europe, that European oppression could never be shaken off."[115]

Rudyard Kipling, for one, thought that aiding China was not a wise idea. Dining with British businessmen who were aiding the Manchus, Kipling deplored the men who were doing their best to "force upon the great Empire

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[113] Quoted in Rotem Kower, ed., *The Impact of the Russo-Japanese War* (London: Routledge, 2006), p. 242.
[114] Quoted in Kower, ed., *The Impact of the Russo-Japanese War*, p. 240.
[115] Sun Yat-sen quoted in Mishar, *From the Ruins of Empire*, pp. 6-7.

all the stimulants of the West—railways, tramlines, and so forth. What will happen when China really wakes up?"[116]

What was a fear for Kipling was a joy for Sun Yat-sen. Japan's defeat of Russia in 1905, Sun said, had infused Asian peoples with a "new hope of shaking off the yoke of European restriction and domination and regaining their own rightful position in Asia."[117] This sense existed not only in China, Japanese intellectuals saw this as well. Kakuzo Okakura wrote in 1906, "European imperialism, which does not disdain to raise the absurd cry of the 'Yellow Peril,' fails to realize that Asia may also awaken to the cruel sense of the White Disaster."[118] These sentiments are clear and forceful, yet it would not be quite correct to label these expressions a re-birth or re-awaking of nationalistic or ethnocentric feelings, as many intellectual historians do, because these emotions and beliefs were never absent, only forced into submission by the shock of Western occupation and technological prowess.

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[116] Rudyard Kipling, *From Sea to Sea: Letters of Travel* (New York: Doubleday, Page, 1907), p. 274.
[117] Sun Yat-sen quoted in Mishar, *From the Ruins of Empire*, p. 7.
[118] Kakuzo Okakura, *The Book of Tea* (New York: Empire Books, 1906), p. 4.

II. D. The Contemporaneous Western View of China: The "Yellow Peril"

The contemporaneous Western view of China was similarly complicated, with Westerners vacillating between the Chinese as feckless and impotent versus those who saw China at the forefront of the Yellow Peril.

The first modern, social scientific approach toward China was done by the French sociologist Joseph-Arthur de Gobineau in the 1850s.[119] Gobineau's attitude was that politically China was immutable with an emphasis on government administration rather than war and diplomacy, in stark contrast to the West. The country's racial character was viewed as feminine, containing a primal urge for political stability but with significant tolerance for various philosophical and religious beliefs. In addition, the Chinese political system could be seen as egalitarian and even democratic in the sense that the mandarinate, which the imperial examination system made accessible to everyone, at least in theory. In the economic realm, the Chinese proclivity was for commercial success, material abundance and satisfaction for the elite. Socially and culturally, China was homogenous.

In this view of China, there was no threat to European civilization, as French political theorist Alexis de Tocqueville wrote to Arthur Gobineau in

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[119] Gregory Blue, "Gobineau on China: Race Theory, the 'Yellow Peril,' and the Critique of Modernity," *Journal of World History*, Vol. 10, No. 1 (Spring 1999), pp. 93-139.

1855: "A few million men who, a few centuries ago, lived nearly shelterless in the forests and in the marshes of Europe will, within a hundred years, have transformed the globe and dominated the other races. Seldom has Providence shown us an aspect of the future so clearly. The European races are often the greatest rogues, but at least they are rogues to whom God gave will and power and whom he seems to have destined for some time to be at the head of mankind."[120]

This benign view of China began to change for two reasons. The first was the opening of China to Western imperial powers following the First Opium War.[121] Greater penetration and familiarity with China provided Europeans with a more complicated view of China. To be sure, many of their beliefs were confirmed in their own minds by their encounters with China, such as a passivity and preference for material possession. At the same time, Europeans were impressed with the civilization and potential power of China. Latent though Chinese power may be, Gobineau, like Napoleon before, was concerned with what the size of the Chinese population might mean for the security of Europe.

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[120] Alexis de Tocqueville, *"The European Revolution" and Correspondence with Gobineau* (New York: Doubleday, 1959), p. 268.
[121] Julia Lovell, *The Opium War: Drugs, Dreams, and the Making of China* (Oxford: Macmillan, 2011).

The second reason was spawned from European advances in technology. The advent of the railroad was the most significant here since it required prodigious amounts of labor, in turn, driving Chinese emigration to the United States and Russia. Railroad development in Russia was seen as a great danger since it would permit the Chinese to project power against Europe—this was the origin of the "Yellow Peril"—where the Chinese hordes would destroy Europe in a modern version of the Mongol or Hunnic invasions.

Gobineau writings also show that he was fully in accord with the consensus of nineteenth-century European thought towards China, identifying it with commercialism, mediocrity, despotism, and a lack of freedom. Accordingly, his analysis of China led him to resist imperialist expansion on the basis of racist anticolonialism. In 1859, he referred to Asia as a tempting fruit that would poison whoever ate of it. Likewise, he warned of the negative effects of Russian expansion into north China as the Russian encounter would weaken St. Petersburg and ultimately aid Chinese expansion.

Gobineau's ideas found fertile soil in France and Germany in the 1880s and 1890s, and later in Russia, Great Britain, and the United States, where concerns about the Yellow Peril were evinced at the highest levels by

Kaiser Wilhelm II, and seems to have entered common usage at the end of the Sino-Japanese War of 1894-1895. After the war ended with the signing of the Treaty of Shimonoseki in April 1895, France, Germany, and Russia protested. The "Far Eastern" Triple Alliance, forced Japan to return the Liaodong peninsula to China.

As Wilhelm II wrote to Tsar Nicholas II, "I shall certainly do all in my power to keep Europe quiet, and also guard the rear of Russia so that nobody shall hamper your action towards the Far East. For that is clearly the great task of the future Russia to cultivate the Asian continent and to defend Europe from the inroads of the Great Yellow Race."[122] Of course, it must be noted that by encouraging Russian aims in Asia, Wilhelm was compensating for the lapse of Bismarck's Reinsurance Treaty between Berlin and St. Petersburg.

Wilhelm II's identification with the Yellow Peril continued for the remainder of his reign. In 1902, he wrote again to Nicholas II emphasizing the risks of a Sino-Japanese alliance: "20 to 30 Million of trained Chinese helped by half a dozen Jap Divisions and led by fine undaunted Christian hating Jap officers, is a future to be contemplated not without anxiety; and

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[122] N.F. Grant, ed., *The Kaiser's Letters to the Tsar* (London: Hodder and Stoughton, 1920), pp. 10-11; quoted in Blue, "Gobineau on China," p. 122,

not impossible. In fact it is the coming into reality of the 'Yellow Peril', which I depicted some years ago."[123]

In 1907, two years after the Russo-Japanese War, Wilhelm predicted that before long there would be a "final great fight…between the yellow and white races in which Japan will lead the Chinese invasion of Europe. It will also be the final great fight between the Christian and the Buddhist religions; the culture of the west and the half-culture of the east."[124]

Gobineau's race theories also had a significant impact on China. Western racial ideologies were appropriated in various ways by non-Western intellectuals in the late nineteenth century, often through integration with indigenous forms of chauvinism or xenophobia. As we have seen above, when Social Darwinist thought was introduced to China by the famous scholar-translator Yan Fu in 1896, the standard Western classificatory model of five base human races (white, red, yellow, brown, and black) was reproduced and disseminated throughout the country.[125] Sun Yat-sen, also used Social Darwinist works. For Sun, the notion of the Yellow

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[123] Grant, ed., *The Kaiser's Letters to the Tsar*, pp. 90-91.
[124] Michael Balfour, *The Kaiser and His Times* (London: Cresset, 1964), pp. 260-261.
[125] Dikötter, *The Discourse of Race in Modern China*, pp. 77-80; and Pusey, *China and Charles Darwin*, pp. 68, 130-131.

Peril even posed the prospect that China might one day avenge the wrongs imposed on it by imperial powers.

Pusey submits that Liang Qichao recalls Wilhelm II in foreseeing that "if China really adopts Western institutions, she will become the strongest and most invincible of nations. The Mongol race will again be able to lead its armies against the West, as Attila did of old."[126] While the language of this concern is out of date, the recognition of the consequences of China's rise is not.

II. E. The Racism of the Chinese Communists

Given how endemic Chinese racism is, there should be no surprise that racism flourished during the Maoist years. This is despite official Marxist and Maoist ideology, which dismisses racism as an artifact of bourgeois thinking. Many of the racial divisions the Chinese made on the basis of race, were often reformulated in terms of "class." So, while the ideas of race were officially taboo, the underlying arguments and beliefs had not changed according to Dikötter. "The messianic idea of unification (the *datong*, or "One World" ideal) was now expressed in a phraseology based on the concept of class struggle, whereas the artificial dichotomization between Chinese and Westerners in biological terms of 'race' was merely reformulated in social

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[126] Pusey, *China and Charles Darwin*, p. 98.

terms of 'class.' Eugenic theories were increasingly applied to the individual's social origins: the best people were "born red."[127]

Although there is nothing in Mao's writings that deals directly with race, it is clear that his sense of nationalism was based on a strong racial consciousness and a sense of biological continuity for the Chinese. He perceived the Chinese nation, (*minzu*) [民族] as a biologically distinct group: being Chinese was a matter of culture, but more importantly, it was a matter of race. Dikötter submits that it was likely he coalesced the notions of "class" and "race" into a vision of the struggle of the "colored people" against "white imperialism."[128] Intellectual historian Stuart Schram writes that "Mao's appeal is not merely to a union based on revolutionary principles, but to the visceral solidarity of peoples long oppressed and humiliated by the white powers of Europe and America."[129]

Official propaganda advanced the idea that only Westerners could indulge in racism, with the Chinese becoming the leaders of the victimized "colored" people in the historical struggle against "white imperialism."[130] In Africa, according to Dikötter, the Chinese tried to capitalize on a common

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[127] Dikötter, *The Discourse of Race in Modern China*, pp. 191-192.
[128] Dikötter, *The Discourse of Race in Modern China*, p. 192.
[129] Stuart R. Schram, *The Political Thought of Mao Tse-tung* (New York: Praeger, 1969), p. 374.
[130] Dikötter, *The Discourse of Race in Modern China*, p. 192.

racial identity, urging that "we black stick together" against the white race, which even then, met with considerable skepticism on the African side.[131] This reached its height at the Third Afro-Asian Solidarity Conference in February 1963, when the Chinese delegates vehemently insisted that the "white" Russians would never commit themselves wholly to the anti-imperialist struggle due to their whiteness. Thus, even for Maoists, race was used to advance great power interests.

Despite communist imagery of racial harmony and unity with the underdog, the Chinese adopted an aloof and racially exclusive attitude toward Africans. Friction between African students and Chinese led to violent clashes in the 1970s and 1980s. This friction remains today for Africans in China. The following section will discuss the present behavior of the Chinese in Africa.

II. F. China as a "Civilizational State"?

China has been described by Zhang Weiwei [张维为], Professor of International Relations at Fudan University, as a civilizational state, which combines the strength of both the nation-state and a civilization. That claim is also made by Martin Jacques, "China is a civilization *and* a continent. In

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[131] Dikötter, *The Discourse of Race in Modern China*, p. 193.

fact, China became a nation-state only relatively recently."[132] Reflecting on this, we can see that China has received a demotion. It was a civilization, the center of the universe, but was reduced to an "ordinary" state by European colonization, but now has the hope and aspiration of returning to its status as a civilizational state.

In an important sense, this is a key contribution as it allows us to comprehend the importance of the unity of race and civilization, or what can be termed race-civilization, in China. As a civilizational state, China is both old and young, both traditional and modern, both Chinese and international. Eight features define China as a civilizational state: first, it has a very large population; second, it has a large territory; third, it has long traditions; fourth, it has an equally well-developed culture; fifth, a unique language; sixth, unique politics; seventh, a unique society; and eighth, a unique economy.[133]

Zhang submits that these features of the civilizational state constitute China's greatest strengths. As he explains: "China has the richest human resources and potentially the largest consumer market; China has an

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[132] Martin Jacques: *When China Rules the World: The End of the Western World and the Birth of a New Global Order* (New York: Penguin, 2009), p. 196. Emphasis original.
[133] Zhang Weiwei, *The China Wave: Rise of a Civilizational State* (Hackensack, N.J.: World Century Publishing, 2012), pp. 52-53.

unparalleled geopolitical and geoeconomic status; China has its own tradition of independent thinking, and has the richest cultural resources in the world. However, if China abandons its own model and adopts the Western model, then the greatest strengths of China as a civilizational state may turn out to be its greatest weaknesses."[134] By this he means that "hundreds of states in one" may become "hundreds of states in conflict;" China's "emphasis on harmonious politics may become adversarial politics; its huge population a rich source of contention; its unified vast territory split and disintegrate; and its diverse traditions the pretext for endless disputes and its cultural richness the source of cultural clashes….Under no circumstances should China lose its own identity and inherent strengths."[135]

Zhang's remarks reveal a hidden but strong ethnocentrism and pride in China. For him, China is a unique and superior state, and so is in keeping with how the Chinese have seen themselves historically. Accordingly, Western analysts should not be surprised at the naked ethnocentrism of the Chinese, and, in this, Chinese intellectuals are no exception. This alone allows us to perceive a key difference between the West and China. It would be rare to find a Western intellectual in the academy today that would make such a boast. The recognition of China's pride, and its people's support of its

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[134] Zhang, *The China Wave*, p. 67.
[135] Zhang, *The China Wave*, pp. 67-68.

pride, compels the acknowledgement that China is a different type of state, and its people celebrate that fact.

II. G. The Resurrection of the Racist State: Chinese Racism Continues

"This yellow river, it so happens, bred a nation identified by its yellow skin pigment. Moreover, this nation also refers to its earliest ancestor as the Yellow Emperor. Today, on the face of the earth, of every five human beings there is one that is descendant of the Yellow Emperor."[136]

If, in contemporary Germany, a leading intellectual were to identify the people of that country according to their physical features ("blond hair and blue eyes") and represent them as a descendant of a homogenous group ("the Aryans"), he would be expelled from the public sphere.

In China, he is venerated.

For Western academics, because it is embarrassing, there is little effort to call attention to the racist views of the Chinese today. In fact, there is often the opposite sentiment. Anthropologist Charles Stafford argues that "race" is not a Chinese concept, and thus racism, for Stafford and many

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[136] Su Xiaokang, "River Elegy," in *Chinese Sociology and Anthropology*, Vol. 24, No. 2 (Winter 1991-1992), p. 9.

intellectuals like him, can only occur in the West.[137] As Jacques writes, "there is a widely held view, not least in East Asia, that racism is a 'white problem': it is what white people do to others. In both China and Taiwan, the official position is that racism is a phenomenon of Western culture, with Hong Kong holding a similar view. This is nonsense."[138] Jacques continues, noting the ubiquity of racism: "All peoples are prone to such ways of thinking—or, to put it another way, all races harbour racial prejudices, engage in racist modes of thought and practice racism against other races. Racism, in fact, is a universal phenomenon from which no race is exempt, even those who have suffered grievously at its hands."[139]

There is no effort to change Chinese racial attitudes at the centers of power in China, or from below. Theories of racial purity have combined with dubious studies in anthropology to create official efforts to legitimate discrimination against minorities in China. The official promotion of China as the "homeland of the Modern Yellow Race" has far-reaching consequences not only for minority groups inside the political boundaries of the PRC.

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[137] Charles Stafford, "The Discourse of Race in Modern China," *Man: The Journal of the Royal Anthropological Institute*, Vol. 28, No. 3 (September 1993), p. 609.
[138] Jacques, *When China Rules the World*, p. 245.
[139] Jacques, *When China Rules the World*, p. 245.

Mongolia, for instance, has been portrayed as an "organic and integral part" of the "Chinese race," as has Tibet.[140]

It is well known, but never officially acknowledged, that the vast majority of Han Chinese regard only their own ethnic group, in the PRC or the diaspora, as Chinese, and hence descendants of the Yellow Emperor. Ethnic minorities who do not physically and culturally resemble the Han are not viewed as authentically Chinese or counted as fellow-descendants of the Yellow Emperor.[141]

Racial discrimination arising in a potentially unstable empire with an embattled Communist Party could have grave consequences for regional stability in Asia. Moreover, in China we see the resurrection of the ideal of a racially-based state through the myth of a Chinese people of the same race, blood, and culture. The myth of descent from the Yellow Emperor is the basis of a racial nationalism and xenophobia that submits there are primal biological and cultural bonds among the Chinese that cannot be altered.[142] These bonds compel a common adherence to state patriotism and

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[140] Frank Dikötter, "Introduction," in Dikötter, ed., *The Construction of Racial Identities in China and Japan*, pp. 1-11, 10.
[141] Perry Link, "China's 'Core' Problem: Ideology," *Daedelus*, Vol. 122, No. 2 (March 1993), p. 195.
[142] John Fitzgerald, "The Nationless State: The Search for a Nation in Modern Chinese Nationalism," *Australian Journal of Chinese Affairs*, No. 33 (January 1995), pp. 84-90.

nationalism. The Chinese are said not only to share a common ancestry but also to derive from progenitors who, in the distant past before the reign of the Yellow Emperor, separated themselves from non-East Asians, thus becoming the "core of the yellow race."[143]

Thus, we may see that in China, due to religious-cultural and historical influences, racism remains a dominant social perspective and attitude. It allows the Chinese to easily define their worldview, to know who is in the "family" and who is the outsider; from whom they should expect support and from whom they should not. As we will see in the next chapter, this is a huge advantage for the Chinese, and one Sun Yet-sen recognized and to which he appealed when he said: "The Greatest Force Is Common Blood."

It also allows the China analyst to comprehend that racism will never be seen as a problem. Racism is a Western problem, the artifact of Western history and Western culture, and, it must be said, a Western obsession. It is also a Western weakness. The obsession with race and race guilt introduces a vulnerability into Western societies that many non-Western peoples have exploited. Most importantly, it has led to a loss of confidence in the West, in its identity, while fracturing its cohesion and leading to doubts about what

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[143] Barry Sautman, "Myths of Descent, Racial Nationalism and Ethnic Minorities," in Frank Dikötter, ed., *The Construction of Racial Identities in China and Japan* (Honolulu: University of Hawai'i Press, 1997), pp. 75-95, 84.

will united it, and what common bonds exist to hold together the people living in Western states.

From the Chinese perspective, racism is not a problem, at most a minor, occasional one, in their society. To the degree that discussions of race arise, it is China as a victim of Western racism. There is the strong belief, which exists today, that the Chinese have been, and continue to be, heavily discriminated against with exclusionary immigration laws.[144] In addition, from the Chinese perspective, present discrimination often takes the form of Affirmative Action policies that serve to exclude Chinese students from the best Universities, and implicit quotas in professions, such as in science and medicine.

Racism remains endemic in China with little expectation that it will be seen as a problem. Such strong beliefs compel us to recognize that all things "China" or "Chinese" will generate the strongest emotional reactions. We are dealing with a state that is more akin in its racial beliefs to Nazi Germany than to Western democracies. This fundamental fact is easily missed by Westerners because of an unease and lack of comfort discussing the topic and by the abandonment of intellectual considerations of race, which have,

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[144] See Shih-Shan Henry Tsia, *The Chinese Experience in America* (Bloomington: Indiana University Press, 1986); and Sucheng Chan and Madeline Y. Hsu, eds., *Chinese Americans and the Politics of Race and Culture* (Philadelphia: Temple University Press, 2008).

on the whole, been a positive development but—at the same time—causes Western analysts to miss much about Chinese behavior.

Accordingly, the fact that China remains concerned with territory does not come as a surprise. China's state media outlet *Huanqiu* published an editorial in which its tone was one of lecturing Hillary Clinton and the U.S. about the recent territorial disputes between China and it's neighboring countries. Note the "impossible" tone and rather vicious bark.

> Before her visit to China, U.S. Secretary of State Hillary Clinton revealed that she was going to talk to China about the South China Sea and other territorial disputes in East Asia. Talk about what? Talk about the sovereign ownership of the Nansha and Diaoyu Islands? Impossible. Talk about the road map to resolve the territorial issues in East Asia? Also impossible.
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> The only thing the two sides can talk about is "grand principles," but there is not much room for that either. Hillary will probably reiterate the "peaceful settlement" principle, to which China will not object. She will also ask China to involve ASEAN in the talks on the South China Sea issue, but China will never accept (this idea). China's principle is to deal with the specific disputes with countries in a one-on-one negotiation. (China) has long denied these so-called "multilateral negotiations."
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> There is not much China and America can discuss. In other words, it is useless to talk. The South China Sea and the Diaoyu Islands dispute have now become so prominent. The root cause behind the scenes is the United States. The United States encouraged and instigated countries that have territorial disputes with China with its 'return to Asia' to undermine the environment surrounding China's development and to harass and inhibit China's rise.
>
> China very much hopes that the United States will not intervene in the South China Sea dispute, and very much hopes that the United States truly remains neutral in the Sino-Japanese dispute over the Diaoyu Islands, but no matter how hard and earnest China tries, it is impossible to move Hillary.

> China and the United States have formed a huge (mutual) distrust. It is unrealistic to break it through conversation. China and the United States judge each other by their actions.
>
> Hillary Clinton has been trying to challenge China's legitimate core interests in the South China Sea and the East China Sea, but she understands that when facing China's firm determination to safeguard its national interests, the United States needs to choose its most favorable reaction. That's enough. China should not let the US have any doubts or other misjudgments regarding its determination."[145]

Of course, visceral Chinese nationalism may be triggered by territorial or other disputes, such as the EP-3E incident in April 2001, or the accidental bombing of the Chinese embassy two years earlier. At that time, a widely circulated poem caught the nationalist tone:

> *When we are wearing Pierre Cardin and Nike*
>
> *When we are driving Cadillacs, Lincolns, and going to*
>
> *KFC and McDonald's*
>
> *Do we have a clear conscience?*
>
> *No!!!*
>
> *Can we still find glory by using foreign products?*
>
> *No!!!*[146]

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[145] *Huanqiu* Editorial, "Let Hillary Understand China's Determination to Defend Its Territory," *Huanqiu*, September 5, 2012, available at: http://mil.huanqiu.com/observation/2012-09/3098896.html

[146] Quoted in Westad, *Restless Empire*, p. 398.

Chapter Three

The Strategic Consequences of Chinese Racism

This chapter considers the strategic consequences of Chinese racism. There are nine major consequences that this study will consider. The intention is to provide an overview of these issues, while the next chapter will illuminate the implications for DoD decision-makers. As I discussed in the last chapter, the Chinese are the last major racist great power, soon to be superpower, and so their beliefs, and the strategic consequences of their beliefs, are very significant to comprehend.

In many respects, the United States is in a situation similar to the one Nathan Leites of the Rand Corporation found himself at the outset of the Cold War. At that time, the central question was how do we understand Soviet decision-making and their current and future actions. To answer these questions, Leites developed what he termed "The Operational Code of the Politburo."[147]

Today we confront the same situation with China. Unlike the Cold War, when the United States had few Sovietologists, the United States has a

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[147] Nathan Leites, *The Operational Code of the Politburo* (Santa Monica: Rand, 1951).

legion of Sinologists who are tasked with precisely the objectives of analyzing and predicting Chinese behavior. Yet, for all of the writings of countless Sinologists, who purportedly explore the major motivations, actions, and responses of the Chinese, United States decision-makers are still in doubt over Chinese motivations and actions, as well as how they perceive and analyze the world.

Largely, Sinologists do not want to address the fundamentally important fact about the Chinese: their racism. There are four reasons why this so. First, in academic circles, as discussed above, there is a bias against identifying racism in non-white people, and in non-Western states. There is a common belief that racism is only found among whites, or, in slightly modified form of this argument, racism is only found among those who have power, as whites have had in the modern period of international politics. Therefore, only whites may be racist.

Second, in addition to academic biases, there are strong significant interests—which may be business, cultural or found in the media—that refuse to recognize this aspect of Chinese culture, or will not acknowledge it for the fear that it will legitimize opposition to China. Calling attention to the racism of the Chinese state legitimizes those opposed to the expansion of

Chinese power with the most powerful and electric argument and emotional appeal that can be made in the United States today: resistance to racism.

Third, as M. Dujon Johnson, a black American scholar of China, argues, racism towards Africans and African Americans is simply not an important enough issue to study by Sinologists because of their assumption that racism in China is acceptable and understandable due to China's ethnocentrism. "The issue of race and racism towards Africans and African-Americans are not discussed because the…majority of China scholars are predominantly white males from the Western world or are predominately Asian males in the non-Western world. Thus racism does not affect the overwhelming majority of China scholars themselves nor does it attack or threaten the inherent privileges and perks of these China scholars because they have the preferred skin pigmentation that the Chinese people favor and idolize."[148]

Fourth, for Sinologists, to recognize the racism among the Chinese would jeopardize their professional standing. In essence, to be a Sinologist requires traveling to China, or to Taiwan. To call out the Chinese on this point is to end their access to Beijing, and would make them unpopular in Taipei. Accordingly, as Aaron Friedberg wrote in his exceptional study of the

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[148] M. Dujon Johnson, *Race and Racism in the Chinas* (Bloomington, Ind.: AuthorHouse, 2011), p. xi.

future U.S. relationship with China, "the truth is that China is too important to be left to the China hands."[149] Indeed, it is.

Friedberg's insight underscores the importance of research that questions what are too often shared assumptions about China, and that is, in fact, critical of China and calls attention to the reality that China does not live up to international norms on identifying and combating racism in its society. It is especially important that research is conducted by analysts who are free to critique Chinese policies precisely because the Chinese government has no leverage over them, and so cannot punish or reward them as Beijing sees fit.

I. The Strategic Consequences of Chinese Racism: Nine Major Consequences

I. A. Racism and Eugenics Heavily Inform the Chinese Worldview

The first and the most important consequence is that racism heavily informs their worldview and self-identification. As explained in Chapter One, the legacy of evolutionary inheritance, xenophobia, racism, ethnocentrism, weighs on us today. Behaviors that aided survival now are mismatched and unfortunate. As described in Chapter Two, the weight of racist thought and action in Chinese culture and history is heavy, and the Chinese government is not combating racism or attempting to reverse it in a meaningful way.

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[149] Aaron L Friedberg, *A Contest for Supremacy: China, America, and the Struggle for Mastery in Asia* (New York: Norton, 2011), p. 269.

Therefore, it comes as no surprise that the ethnocentric beliefs positing Chinese superiority portray the rest of the world as inferior, and racist opinion and expressions are common in the public sphere.

While there are important differences among the Chinese, there is the saying "there are many Chinas" on any particular issue or aspect of life, there is a unity of culture, great patriotism and nationalism.[150] There is an animating drive to make China strong again, and a pride in their country. Within China, the Chinese most often identify with their province, not nation, and there is a hierarchy among the provinces. They may see someone from another province as being from another nation, just as in Europe, while all are Europeans, the Germans see the French differently, and the Italians the Czechs.

Nonetheless, strong ethnocentrism is the heart of what it means to be Chinese. These attitudes were common in the past, explicitly made even when China had its period of doubt during the "Century of Humiliation." Policy-makers and analysts should prepare for continually greater nationalistic, ethnocentric, and racist appeals as China becomes stronger. As Lucien Pye explains: "The most pervasive underlying Chinese emotion is a profound, unquestioned, generally unshakeable identification with historical

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[150] Jacques, *When China Rules the World*, pp. 235-237.

greatness…This is all so-evident that they are hardly aware when they are being superior to others."[151] Pye continues: "The Chinese see such an absolute difference between themselves and others that even when living in lonely isolation in distant countries they unconsciously find it natural and appropriate to refer to those in whose homeland they are living as 'foreigners.'"[152]

There is nothing wrong with racism from the Chinese perspective. Again, as discussed in Chapter Two, the Chinese see themselves as the victims of racism, such as at elite American universities where Chinese and Chinese-Americans are discriminated against. Yet, it is quite clear that racism and racial stereotypes are endemic. As Professor John Copper reveals, in the survey of common racial attitudes from the Chinese perspective, the Japanese are racial equals.[153] The Koreans are rude, possess no culture, and are like gangsters in their actions. The Vietnamese are tougher, smarter, better than the other people of Southeast Asia, although obviously inferior to the Chinese. The Indians are not civilized, and stink, but are good engineers, which is highly praised in China since it is considered a prestigious profession.

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[151] Lucien Pye, *The Spirit of Chinese Politics* (Cambridge, Mass.: Harvard University Press, 1992), p. 50.
[152] Pye, *The Spirit of Chinese Politics*, p. 56.
[153] Interview with Professor John Copper, Rhodes College, August 23, 2012.

Foreigners were traditionally described as "devils" in Chinese history, but they are distinguished by their skin color, with Caucasians referred to as "white devils" (*baigui* [白鬼]) and those of darker skin as "black devils" (*heigui* [黑鬼]), and these terms are still used today. Not all devils were regarded in the same way, however; white devils were perceived as "rulers" and black devils as "slaves."[154]

The Chinese general attitude toward whites is that they were superior to Asians in the past, but not so anymore. The Chinese perspective toward Europe is that Europe is irrelevant, has not produced any ideas in the last generation, and will not do so in the future. The Chinese attitude towards white Americans is more complicated. Physically, and as sexual partners, Caucasians are attractive due to their height, lighter skin, bigger eyes, pointed nose with a higher bridge. There is the belief that intermarrying with whites produces better children. Chinese women, in particular, are attracted to white men in part because for the Chinese themselves, there are deep cultural prejudices against dark skin, which is associated with lower class, and for light skin, which equates to the upper class. Capturing this bias is a popular saying "one white covers up one hundred defects" [一白遮百丑]. In addition, Western men are attractive because they are taller. Among

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[154] Jacques, *When China Rules the World*, p. 248.

Chinese women, there is the "Three Talls" folk wisdom, that is, a man should be physically tall, tall in education, and tall in income. As Johnson explains: "In the Chinas today there is a clear racial social hierarchy based on the assumptions of racial superiority. The comfort level and the acceptance of a foreigner in the Chinas are directly proportional to the skin pigmentation of that non-Chinese," he continues, "the racial hierarchy in both Taiwan and Mainland China is very well defined in dealing with non-Chinese with whiteness being the most desired and favorable skin pigmentation. At the top of this racial and social hierarchy for the non-Chinese is the white male."[155] For Chinese women, "white males are not only a status symbol but white males are also seen by them as an opportunity for upward social and racial mobility."[156]

However, within China, there was a time when Westerners were welcomed without doubt, but now this is changing. A May 2012 event has electrified anti-Western sentiment and gone viral. An Englishman was assaulting a Chinese woman in an attempted rape when he was stopped and beaten by bystanders.[157] Historically, Westerners in China always got a pass. Those days are over. Westerners are now treated in accord with the law. In

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[155] Johnson, *Race and Racism in the Chinas*, p. 37.
[156] Johnson, *Race and Racism in the Chinas*, p. 100.
[157] The event is posted on YouTube and available here as of 29 August 2012: http://www.youtube.com/watch?v=K4YNkRtVLws

part as a reaction to the incident, Chinese authorities are stopping Westerners on the street and checking whether or not they are in China legally. The autonomy granted to Westerners in China is at an end, and the evidence for this is found among the young students protesting in a strongly nationalistic response to the Englishman's attempted assault.

The attitude towards blacks is that they are ugly, uncivilized, and have a low degree of intelligence. They need leadership and it is acceptable to exploit them. When the Chinese are accused of exploitation in Africa, a common response is that the Chinese do not interfere in domestic affairs, nor do they enslave anyone. Although, actually, China had a small number of African slaves, particularly on Chinese ships. In fact, as described below, there have been riots against Chinese managers that have resulted in deaths, most recently in Zambia.

For Johnson, with his years of living in China as a black person, Chinese racism is endemic and such an obvious aspect of life is not worth discussing: "In Chinese society one of the reasons that the issue of race and racism is rarely discussed openly in the Chinas is because racism is universally accepted and justified behind the veil of Asian cultural values," he continues, "those who hold these views consider…[Chinese] cultural perspectives of other ethnic groups to be unassailable no matter how

inaccurate or offensive they may be."[158] Racism is also an issue that is not addressed among Chinese because most Chinese see themselves as superior to darker-skinned people. Therefore, within the Chinese mindset, it would be a waste of time to address an obvious fact of darker-skinner people's inferiority."[159] Some of his interviewees told of innocently brushing against a Chinese person in a crowd: "Without fail, the Chinese always responded by immediately rubbing the part of their body that had been touched by the African or African-American as if they were attempting to brush the black color off."[160] He recounts how some of his African and African-American friends were assaulted without an investigation of the assault by the local police.[161]

Moreover, in his interviews with Chinese, Johnson's research revealed that many made "a conscious attempt to stay away from darker skinned people….In sharing their views…none of the individuals interviewed considered their comments to be racist in any manner. The Chinese interviewees took their racially insensitive comments to be factual in nature."[162] After asking two Chinese human rights activists on separate

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[158] Johnson, *Race and Racism in the Chinas*, p. 31.
[159] Johnson, *Race and Racism in the Chinas*, p. 31.
[160] Johnson, *Race and Racism in the Chinas*, p. 63.
[161] Johnson, *Race and Racism in the Chinas*, p. 63.
[162] Johnson, *Race and Racism in the Chinas*, p. 88.

occasions why they did not reach out to blacks in the United States, Johnson reveals his horror when both stated that they were "not at all concerned with Blacks in America because all Chinese knew that Africans and African-American people had bad social habits and vices and they would corrupt Chinese society as they had American society."[163]

Johnson submits that his experiences demonstrated to him "on a daily basis how life in Chinese society is racially segregated and in many aspects similar to a system of racial apartheid."[164]

Occasionally, this racism will erupt and be so blatant as to be embarrassing for the government. What was written about United States Secretary of State Condoleezza Rice on websites when she visited Beijing in 2005 was scandalous. Chinese writer Liu Xiaobo [刘晓波] was shocked at the reaction and protested:

> I have browsed China's three biggest portals' BBS articles [blogs] about Rice's six-nation visit…Just take Sina as an example. I examined over 800 BBS articles…including repetitions, there were over 600 articles. Among them, there were nearly 70 articles with racial discrimination, one-tenth of the total…There were only two with a gentle tone, the rest were all extremely disgusting. Many stigmatized Rice as "really ugly"…"the ugliest in the world"…"I really can't understand how mankind gave birth to a woman like Rice"…Some directly call Rice a "black ghost," a "black pig,"…"a witch"…"rubbish of Humans"…Some lament: Americans' IQ is low—how can they make a "black bitch" Secretary of State…Some, of course, did not forget to

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[163] Johnson, *Race and Racism in the Chinas*, p. 90.
[164] Johnson, *Race and Racism in the Chinas*, pp. 147-148.

> stigmatize Rice with animal [names]: "chimpanzee," "bird-like," "crocodile," "a piece of rotten meat, mouse shit, [something] dogs will find hard to eat.[165]

Additional remarks included: "How come the United States selects a female chimpanzee as Secretary of State?" and "She is so ugly she is losing face. Even a dog would be put off its dinner while she's being fed."[166] Others labeled her "a black bitch," "her brain is even more black than her skin," and one write said: "I don't support racism, but this black ghost really makes people angry, the appearance of a little black [person] who has made good."[167]

Virulent racism is only a part of China's problem, belief in eugenics completes the equation. Although eugenics has been discredited in the West, the Chinese are strong supporters of such policies, and have been throughout their history. There is an ancient Chinese saying: "Sow melons and you will reap melons, plant beans and you will harvest beans" [种瓜得瓜, 种豆得豆] that the Chinese put into practice when it comes to human life. Or, as Confucius says in *The Analects*, "superior intelligence and inferior stupidity cannot be

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[165] Liu's remarks were posted on www.ncn.org and quoted in Jacques, *When China Rules the World*, p. 260.
[166] Hamish McDonald, "China Forgets Manners as Rice Visit Touches Nerves," *Sydney Morning Post*, March 26, 2005, available at: http://www.smh.com.au/articles/2005/03/25/1111692629223.html?from=top5&oneclick=true.
[167] Martin Jacques, "The Middle Kingdom Mentality: At Last China's Culture of Racism is Being Contested by Chinese," *The Guardian*, April 16, 2005, p. 24.

changed" [唯大智与下愚不移]. United States decision-makers need to recognize that China is a racist state, a natural consequence is that so too it is eugenicist.

The PRC passed a law in 1995 aimed at restricting births deemed to be imperfect. It suggests that in order to prevent "inferior births," those "deemed unsuitable for reproduction" should undergo sterilization or abortion or be compelled to remain celibate.[168]

China has a wide eugenic campaign aimed at the general public to restrict "imperfect" births. The policies and laws adopted have a strong coercive element to them, which, at its heart, seeks to prevent reproduction by "unfit" people. Twinned with the coercive approach, is a pedagogical one, where young people are educated about the need to have a sense of the reproductive responsibility of every citizen.[169]

As Dikötter writes, "in the name of a more eugenic future, conjugal couples are enjoined strictly to monitor their reproductive behaviour and exercise self-discipline before, during, and after conception. The choice of a partner, the age of marriage, the timing of conception and even the quality of the semen are all claimed to influence the health of future offspring

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[168] Frank Dikötter, *Imperfect Conceptions: Medical Knowledge, Birth Defects, and Eugenics in China* (New York: Columbia University Press, 1998), p. 1.
[169] Dikötter, *Imperfect Conceptions*, p. 1.

significantly."[170] To promote this, the Chinese control the medical knowledge available to prospective parents. The medical knowledge "dispensed in eugenic campaigns is not designed to enable informed individual choices in reproductive matters, but to instill a moral message of sexual restraint and reproductive duty in the name of collective health."[171] In China, eugenics promotes "a biologising vision of society in which the reproductive rights of individuals are subordinated to the rights of an abstract collectivity."[172]

Historically, many countries have had eugenics programs—the United States, Sweden, France, India, among many others. These policies were advanced to control people, promoting reproduction by some and restraining the freedoms of others. Eugenics provided scientific authority and a solution to social fears, lent respectability to racial prejudice and class bias, and legitimized sterilization policies. Most importantly, it allowed leaders to portray their societies as an organic body governed by biological laws. In the West, they were ended by the 1960s due to concern over their value and, critically, the violation of individual liberties.

It is straightforward for a racist state like China to maintain eugenicist policies. Appeals to "strengthening the race" and improving the state are

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[170] Dikötter, *Imperfect Conceptions*, p. 1.
[171] Dikötter, *Imperfect Conceptions*, pp. 1-2.
[172] Dikötter, *Imperfect Conceptions*, p. 2.

common in the educational system. Powered by the prestige of science, eugenics allows the Chinese government to advance their policies as objective statements grounded in the laws of evolutionary science. It will be shocking for many in the West to learn that eugenicist ideas are medical policy in China. Common justifications are that the disabled will never be able to live and work independently, will provide endless misfortunes for their families, and will increase the burden on society while lowering the quality of population.

In addition, the costs of maintaining congenitally handicapped people are often invoked to justify eugenic policies.[173] As Chen Muhua, Vice President of the Standing Committee of the National People's Congress and president of the Women's Federation declared in 1991: "Eugenics not only affects the success of the sate and the prosperity of the race, but also the well-being of the people and social stability."[174]

Of course, this situation is made worse by China's "One Child" policy, which places a premium on having the child of the parents' dreams. Abortion, infanticide, especially female infanticide, and foreign adoption are solutions to those who do not. While the Party is changing its "One Child" policy over time, so that in 2015, a second child will be allowed, and in 2020,

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[173] Dikötter, *Imperfect Conceptions*, pp. 160-162.
[174] Quoted in Dikötter, *Imperfect Conceptions*, p. 162.

the family itself may decide its size. By 2026, China will return to population increase policies to offset its aging population, and anticipated negative economic growth due to its declining population.[175]

Indeed, as a part of eugenicist policies, historian of China David Mungello notes the two thousand year history of the practice. Its long history, he argues, has several causes, such as a cultural preference for male children, poverty, famine, war, and other natural disasters and was more prevalent in southern than northern provinces.[176]

It is a major human rights violation that a one-party, racist state controls the expression of dissenting opinion and limits the ability of the Chinese people to make their own reproductive choices, while actively promoting eugenicist beliefs and policies. In China, there is, frankly, a war against "imperfect births," and those not deemed worthy of life or of reproducing. Accordingly, it falls to honest observers of China to call attention to these facts.

II. B. Chinese Racism Informs Their View of the United States

The starting point of this discussion is that the United States used to be a strong society that the Chinese respected when it was unicultural, defined by

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[175] I am grateful to Professor Huiyun Feng for these insights.
[176] D.E. Mungello, *The Great Encounter of China and the West, 1500-1800*, 3rd ed. (Lanham, Md.: Rowman and Littlefield, 2009), pp. 134-136.

the centrality of Anglo-Protestant culture at the core of American national identity aligned with the political ideology of liberalism, the rule of law, and free market capitalism. As Samuel Huntington argued, it was the Anglo-Protestant culture that made America "America," and not a Latin American state. For Huntington, there was a strong, creedal component to American national identity, which defined those who were Americans and those who were not.[177] This Creed originally consisted of common ancestry, language, religion, principles of government, manners and customs, and Revolutionary War experience.[178] Over time, the Creed has changed, common ancestry and war experience became far less important. Yet, the others remained, and, for Huntington, foraged a strong national identity that permitted the United States to survive many challenges.

The American Creed allows "Americans to hold that theirs is an 'exceptional' country because unlike other nations its identity is defined by principle rather than ascription and, at the same time, to claim that America is a 'universal' nation because its principles are applicable to all human societies. The Creed makes it possible to speak of 'Americanism' as a political ideology or set of beliefs, comparable to socialism or communism, in a way in

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[177] Samuel P. Huntington, *Who Are We? The Challenges to America's National Identity* (New York: Simon and Schuster, 2004), p 47.
[178] Huntington, *Who Are We?*, p. 60.

which one would never speak of Frenchism, Britishism, or Germanism."[179] At the same time, it had no attachment to place in the same manner as the French or Japanese do.

The rise of multiculturalism in the United States, and the West more broadly, has destroyed, or "decentered" in the language of the multiculturalists, the American Creed, in favor of an explicitly multiracial, multicultural society that celebrates differences rather than requiring assimilation. Huntington's American Creed has been replaced by an ideology that rejects its core principles and beliefs in favor of promoting any culture, so long as it is not Western.

From the perspective of the Chinese, it is hard what to make of this. In their view, the United States is explicitly rejecting the principles that made the country great, and united it. It is fair to say that the Chinese have not fully thought through the impact of multiculturalism on the West. According to Sinologist John Copper, the Chinese see multiculturalism as a sickness that has overtaken the United States, and a component of U.S. decline.[180] Their belief is that it is bad for the United States, weakening it at a time when the

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[179] Huntington, *Who Are We?*, pp. 47-48.
[180] Interview with Professor John Copper, Rhodes College, August 23, 2012.

United States is already weakened due to its alien political ideology and different cultural values, with too strong a focus on individualism.[181]

From the Chinese viewpoint, all of this conspires to cause the breakdown of American society and the lack of purpose in life for most Americans. Yet, at the same time, they embrace American popular culture. In essence, they think the American people are good but the American government and dominant beliefs are bad. One major implication of this is that the Chinese government may have less of a desire to confront the U.S. due to the expectation that it will collapse of its own internal discord.

II. C. Chinese Racism Informs Their View of International Politics

Third, Chinese racism informs their view of international politics in three major ways. First, as just discussed, it informs their view of what makes a strong state. States are stable, and thus good for the Chinese, to the degree that they are unicultural.

Second, Chinese ethnocentrism and racism drive their outlook to the rest of the world. Their expectation is of a tribute system, just as China practiced diplomacy in the past—famously known to the West as *kowtow* or *koutou* [叩头]—and it is quite clear who was superior and who was inferior.

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[181] Interview with Professor Eric Hyer, Brigham Young University, September 18, 2012.

Indeed, a rather telling fact is that China never sent any ambassadors; the rest of the world was expected to come to them. The same behavior may be found in modern day China. Mao never visited any country other than the Soviet Union, and he did so only briefly.[182] Moreover, Mao was never cordial to foreigners, especially Africans.

Third, there is a strong, implicit, racialist view of international politics that is alien and anathema to Western policy-makers and analysts. The Chinese are comfortable using race to explain events and with appealing to racist stereotypes to advance their interests. It would be unthinkable that a Western political leader such as a foreign minister, could do the same.

This becomes particularly important in the Chinese message to the Third World. The essence of which is, we do not care about your politics and we mind our own business. Of course, they do not, and the Chinese behavior in Africa is often reprehensible. But the Chinese attitude allows them to anticipate a U.S. response. The Chinese will be able to retort: "If the U.S. says the Chinese are racists, do not trust them, they will not treat you as equals." Then, Beijing may reply to Third World states: "Has the United States or the Europeans ever treated you as equals. Unlike the West, we will come to your

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[182] Mao was in the Soviet Union from December 1949-February 1950 to meet with Stalin. On this difficult visit, for both Mao and Stalin, see Jung Chang and Jon Halliday, *Mao: The Unknown Story* (New York: Knopf, 2005), pp. 350-355.

country, pay a fair price for your commodities, plus we will build your infrastructure."

China would say of course we treat you as equals, but fundamentally, as analyzed in Chapter Two, they do not see Africans as equals. Equality is not part of Chinese thinking, to the degree it is, it is associated with Communism, Mao preached equality, which is rejected by the Chinese historically as well as today. The Chinese would contend that the international system is not based on equality but on power. The conception of equality and the need to treat a citizenry as equal, despite differences in ability, is Western and absent from Asian political thought.

II. D. Chinese Appeals to "Racial Solidarity"

Fourth, and drawing from the points just made, the Chinese will make appeals to Third World states based on "racial solidarity," that is, the need of non-white peoples to unite against Western imperialism and racism. From the Chinese perspective, whites have exploited Asians since the Portuguese and Dutch arrived in the fifteenth and sixteenth centuries. Again, from their point of view, non-whites have a natural affinity or bond with each other as victims of white racism. This claim is often made in the context of Sino-Afro relations, where the Chinese have used appeals based on victimhood to advance their interests.

The history of the Cold War is ripe with efforts by the Chinese to cast or define themselves as separate from the West and from the Soviet Union. The Cuban Missile Crisis occurred during the height of the Sino-Soviet split, and the Chinese wasted no time lambasting the Soviets for their behavior during the crisis and their negotiated compromise that brought the Crisis to its end. Most importantly, the Chinese made entreaties to the Cubans at this time, some of which were based on racist appeals. Reflecting on China's actions during the Crisis, Nikita Khrushchev recounted in his memoirs: "The Chinese were making a lot of noise publicly, as well as buzzing in Castro's ear 'Just remember, you can't trust the imperialists to keep any promises they make!' In other words the Chinese exploited the episode to discredit us in the eyes of the Cubans."[183]

Racial solidarity claims are easy for the Chinese to accomplish since they can easily make racist claims. They can frame international politics in terms of a "racial balance of power," and cast appeals to the Third World along the line of: now is the time for non-whites to dominate international politics. Such pleas immediately bring to mind the propaganda of the Japanese "Greater East Asian Co-Prosperity Sphere" during Tokyo's invasion of China, and later in World War II, where the slogan "Asia for the Asians,"

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[183] Edward Crankshaw and Strobe Talbott, *Khrushchev Remembers* (Boston: Little, Brown, 1970), p. 504.

was a popular and attractive message. As is increasingly demonstrated, these entreaties meet with only mixed success at best due to consistent and immutable Chinese racism, and a condescending attitude toward Africans in the belief that Africans need Chinese leadership.

However, the West should not underestimate how appealing this message will be to many in the Third World. There will always be a significant part of the world's population that is resentful of the West for its freedoms, equality, lifestyle, and philosophy. The popularity of Osama bin Laden tee shirts and memorabilia throughout the Third World, including non-Islamic states, is a testament to that desire. The United States should fully anticipate that as Chinese power grows, so too will its status and attractiveness as an icon and as a mechanism of soft power.

II. E. Chinese Racism Retards their Relations with the Third World

Fifth, Chinese racism makes it difficult for China to advance a positive message in the Third World, especially Africa, but also in Latin America and the Middle East. As demonstrated in this study, the Chinese have a hierarchy of looking at other groups—darker skin is lower class, race matters, and they racially stereotype Africans as backward, dirty, and prone to crime, particularly violent crime. Johnson captures this succinctly: "The Chinese are clear that Africans and African-Americans are not very desirable as a

people and they will be grudgingly tolerated in Chinese society. It is not an exaggeration to state that most Chinese would rather all Blacks return home to Africa even if they are not Africans."[184]

Within China, there is widespread racism. Clashes between African students and Chinese occur with regularity. Johnson has followed this issue closely and notes that from the 1960s, when Africans began studying in China, there were complaints that "racism in the Chinas was prevalent, unchecked and widespread in Chinese society. These complaints by African students ranged from impolite and racist statements by Chinese citizens to threats, intimidation and actual physical assaults."[185] There were major riots by African students at Chinese universities in 1962, 1979, 1980, 1986, 1988, and 1989. Although the causes of the incidents are hard to discern, they seem to involve relationships between African students and Chinese women.[186]

Chinese businessmen take their racist attitudes to Africa. There are many accounts now of the explicit racism of Chinese managers working in Africa. The totality of these anecdotes combine to present the Chinese with a difficult problem; they want to appeal to the Third World on a racial basis,

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[184] Johnson, *Race and Racism in the Chinas*, p. 131.
[185] Johnson, *Race and Racism in the Chinas*, p. 27.
[186] Johnson, *Race and Racism in the Chinas*, pp. 27-36.

while at the same time their racism too often defeats what otherwise might be an attractive message. As a result of the experience of dealing with the Chinese, China's appeals fall on deaf ears.

Chinese racism will undermine their message. Worldwide, the Chinese are clannish, with numerous Chinatowns in most major cities. The Chinese network in business with other Chinese. Accordingly, the Chinese will be successful in Africa due to their business skills and their networks, which contributes to great success as well as resentment towards such success, as can be seen in the spike in violence directed against the Chinese in Africa.

The fundamental fact causing China's problems in Africa is that the Party is very good at promoting economic growth. If the economy declines, it will affect the Party's legitimacy. Therefore, unemployment is a central concern of the Party—and with good reason since there are 25 million new people for which to find jobs every year—and so the economy must support employment. To safeguard against unemployment, and in a classic case of imperialism straight out of Vladimir Lenin's *Imperialism: The Highest Stage of Capitalism*, the Chinese are dumping goods into Africa and undermining African businesses. The consequences for Africa are considerable.

China's approach often meets resistance due to its own ham-fisted and too naked grab for the resources it needs at the cost of local communities. China is increasingly seen as a "New Colonialist" by Africans, with accusations of neo-colonialism bouncing around internet message boards. Large numbers of Chinese are settling in Africa where, typically, they employ other Chinese and not Africans, purchase raw material for processing elsewhere, and sell to foreign markets, in the classic fashion of European imperialism that occurred over a century ago.

In Africa, the Chinese have been difficult trading partners. Local traders are angry about the influx and business practices of small-scale Chinese traders in Nairobi, Kenya, and have circulated anti-Chinese leaflets as well as staging a street protest. As one article in the Kenyan *Daily Nation* makes clear.[187] "As you read this, Chinese archaeologists are digging up Malindi, where they hope to unearth evidence of their presence in the East African coast dating way back to the Ming Dynasty, when Chinese admiral Zheng He is said to have rounded the coast of Somalia and sailed down to the Mozambique Channel. The Ming Dynasty was in power from 1368 to 1644….Well, centuries after the Ming Dynasty, when sailors blazed the trail,

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[187] Mwaura Samora, "Who Is the Bull in a China Shop?" *Daily Nation*, September 10, 2012, available at: http://www.nation.co.ke/Features/DN2/Enter+the+dragon/-/957860/1483234/-/ejcb57/-/index.html

Chinese corporations are here, almost ubiquitously, building roads and skyscrapers. And with them have come small-scale traders... and a source of friction."[188]

The news story continues: "They are a crafty lot," said a Luthuli Avenue-based generator and public address system dealer who identified himself as Karis, of the Chinese.[189] The Chinese come "disguised as customers and ask for our prices, only to go back to their country and bring to the market the same products at a much lower price."[190] According to Karis, the Chinese employ Kenyan salesmen only to offload them after building a client base and learning local business dynamics. Another said: "Most don't pay rent or city council levies. They are eating into our client base."[191] Protesters said that "Kenya's government should enforce taxes on Chinese imports and traders and conduct studies on why they can sell goods cheaper than local traders. A statement from China's embassy in Nairobi noted its efforts to educate Chinese companies and citizens in Kenya to operate businesses within the law and live together in harmony with the

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[188] Samora, "Who Is the Bull in a China Shop?" *Daily Nation*, September 10, 2012.
[189] Samora, "Who Is the Bull in a China Shop?" *Daily Nation*, September 10, 2012.
[190] Samora, "Who Is the Bull in a China Shop?" *Daily Nation*, September 10, 2012.
[191] Samora, "Who Is the Bull in a China Shop?" *Daily Nation*, September 10, 2012.

local people."[192] It expressed concern over leaflets that "threaten both the Chinese business people in Kenya and the Kenyan people."[193]

But Nairobi is not the only African city swarming with the enterprising merchants from the Far East. Small-scale traders in Dakar, Lusaka, Luanda, Maputo and many others are contending with the entry of the dragon. To protect local vendors, the government of Malawi passed a law last month that restricts all foreign traders to the country's four major cities (Lilongwe, Blantyre, Mzuzu and Zomba), in addition to having to deposit $250,000 in the country's central bank, which they must invest in the country. "The new law clearly outlines what kind of businesses foreign investors will be allowed to get involved in."[194] The *Inter Press Agency* quoted Malawi's Minister of Trade, John Bande, as saying: "We will not accept foreigners to come all the way from China and open small businesses and shops in the rural areas of this country and compete with local traders."[195]

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[192] Samora, "Who Is the Bull in a China Shop?" *Daily Nation*, September 10, 2012.
[193] Samora, "Who Is the Bull in a China Shop?" *Daily Nation*, September 10, 2012.
[194] Samora, "Who Is the Bull in a China Shop?" *Daily Nation*, September 10, 2012.
[195] Samora, "Who Is the Bull in a China Shop?" *Daily Nation*, September 10, 2012.

Last year, *Chinese Fuel Resurgence in Ivory Poaching*, a documentary by Kenya's *A24 Media*, claimed that 50 percent of poaching incidents in Kenya today happen within a 20-mile radius from Chinese road-building projects. The documentary also alleged that major poaching activities were reported in areas where the Chinese were grading or constructing roads, like Tsavo and Amboseli. "I think there is a link between the number of Chinese who have come into Africa recently and elephant ivory purchasing," explained Dr. Esmond Bradley-Martin, a conservationist interviewed in the documentary.[196] "For instance, in about 2000/2001, there was something like 75,000 Chinese working in Africa, now the figure is well over 500,000 and the Chinese are being caught all over Africa… in Kenya they have been caught with ivory coming in from Congo and Cameroon," he said.[197]

Another point of tension for Africans is the poor quality of Chinese goods, and the suspicion that the Chinese dump these goods in Africa. This has led to a backlash for those seeking value. According to Abdou Diallo, a Senegalese businessman based in Istanbul, "we have begun to distinguish

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[196] Samora, "Who Is the Bull in a China Shop?" *Daily Nation*, September 10, 2012.

[197] Samora, "Who Is the Bull in a China Shop?" *Daily Nation*, September 10, 2012. On the impact of cheap Chinese goods, Ian Taylor, *China's New Role in Africa* (Boulder, Colo.: Lynne Rienner, 2009), pp. 63-88. Also see Chris Alden, *China in Africa* (London: Zed Books, 2007).

Turkish goods from Chinese products due to their quality. Turkish goods mean European quality at a cheaper price."[198]

Energy resources are the major economic reason for China's expanding presence in Africa. Although about one third of China's oil imports come from Angola, Sudan, Congo, Equatorial Guinea, Chad, and Nigeria, making China the third largest trading partner of Africa, after the United States and France, many of China's actions raise suspicions among Africans that Beijing's approach to the continent is guided only by a concept of expedient looting of resources, in service of which any regime or politician, however loathsome, will be supported or dropped abruptly if circumstances change. This increasingly widespread conviction is making Africans into something far different from the rather eager, ideologically committed, and politically compliant partners of the 1960s. At the same time, the Chinese approach to Africa is undermining its often-reiterated positions of non-interference in foreign states, equality, respect, and so on, not only in Africa, but worldwide, where Beijing is increasingly seen as an unscrupulous player.[199]

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[198] Quoted in Carmody, *The New Scramble for Africa,* p. 111.
[199] Waldron, "Foreword," in Waldron, ed., *China in Africa*, p. 6. See also Fantu Cheru and Magnus Calais, "Countering 'New Imperialisms:' What Role for the New Partnership for Africa's Development," in Fantu Cheru and Cyril Obi, eds., *The Rise of China and India in Africa: Challenges, Opportunities and*

The impact of energy resources and prices may make it difficult for China to follow the same path to development, propelled by cheap energy, that lifted the states of Europe and North America. This profound fact is inescapable no matter how much oil the Chinese acquire in Latin America or Africa. Moreover, the oil that China imports contains considerable risk. Oil is transported around the world in a fleet of about 4,000 tankers, many of which serve the needs of other consumers. That procession could easily be closed by attack or blockade of the sources, such as with Saudi Arabia. To the west, in the Red Sea, is a single set of Saudi loading facilities, but the Red Sea, too, is easily blocked. China is building oil facilities in Sudan on the Red Sea, but a serious adversary could sabotage this connection with little difficulty.

In addition, the path to China is an obstacle course of maritime choke points. The entrance to the Straits of Malacca is controlled by the Indian Andaman and Nicobar Islands and runs between Malaysia and Indonesia, both Muslim countries deeply suspicious of their Chinese minorities. At the Philip Channel, the easternmost part of the Strait passing Singapore, through which north bound ships must pass, the waterway is a bit more than a mile wide in places, and piracy is rampant. Given these obstacles, it may be questionable whether dependence on significant petroleum imports is viable

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Critical Interventions (London: Zed Books, 2010), pp. 221-237; Carmody, pp. 190-194; Taylor, pp. 167-169.

for China. More importantly, for the United States, it is a weapon Washington may use against China for the purposes of coercion.

Chinese business practices are a little different in Latin America. Chinese companies are looking to increase their investments in Latin America and expand beyond the focus on mining and resources, which will help China avoid resistance to its further expansion. In Africa especially, China has been criticized for channeling much of its investment into natural-resource extraction, for importing Chinese labor on infrastructure construction projects, and for swamping local markets with cheap goods. The concern now is that a similar pattern could emerge in Latin America. China pushes for "what it wants but Latin America doesn't think the same," said Wu Guoping, assistant director of the Institute of Latin American Studies, Chinese Academy of Social Sciences, at a September 2012 conference on Chinese investment in Latin America.[200] Warning that trade and investment between China and Latin America was not "complementary" and

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[200] Colum Murphy, "China Steps Up Push Into Latin America," *The Wall Street Journal*, September 12, 2012, available at: http://online.wsj.com/article/SB10000872396390443696604577647102203290514.html.

entailed risks, he added, "China has to look for a new strategy for Latin America."[201]

Chinese foreign investment in Latin America surged to $10.54 billion in 2010, the most recent figure available, from $7.33 billion in 2009. That investment, plus increasingly active lending in the region, has given China greater sway in an area long considered a bulwark of U.S. influence. However, China is looking for new markets to manufacture and sell more sophisticated products such as cars and power-generation equipment. It could also help avoid tensions such as those with African countries—a subject of discussion during a visit by African leaders to Beijing in July 2012. During a trip to Latin America in June, Chinese Premier Wen Jiabao proposed a $5 billion cooperation fund for infrastructure investment and a $10 billion credit line to support the construction and infrastructure industries in the region.

Nonetheless, not everyone embraces investment by Chinese companies in the area. Argentina and Brazil have prohibited land sales to the Chinese, leading the way for other Latin American states. Brazilian manufacturers are especially concerned by the prospect of a more active China in the region. The Brazilian government has become aware that China

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[201] Murphy, "China Steps Up Push Into Latin America," *The Wall Street Journal*, September 12, 2012.

is enriching raw materials exporters, while weakening its industry. The result has been a call for tariff barriers against the Chinese.[202] According to June Teufel Dreyer, professor of political science at the University of Miami: "Chinese-made shoes are cutting into the shoe industry there and Chinese cars have the potential to bankrupt locally made ones," she said. "Still, it's a matter of whose ox is being gored. Many sellers of raw materials are very happy to have the Chinese market."[203]

II. F. Chinese Racism Contributes to their Overconfidence

Sixth, racism, and the degree to which the Chinese permit their view of the United States to be informed by racism, has the potential to hinder China in its competition with Washington because it contributes to their overconfidence. This overconfidence is a result of ethnocentrism and a sense of superiority rooted in racism. The Chinese commonly believe that they are cleverer than others, and so may shape events in an oblique manner or through *shi* [势], strategic manipulation of events.

The correct understanding of *shi* in Chinese strategic thought allows us to understand Deng Xiaoping's 24-character instruction to Chinese

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[202] Murphy, "China Steps Up Push Into Latin America," *The Wall Street Journal*, September 12, 2012.
[203] Murphy, "China Steps Up Push Into Latin America," *The Wall Street Journal*, September 12, 2012.

officials as an archetype: "Observe carefully; secure our position; cope with affairs; hide our capabilities and bide our time; be good at maintaining a low profile; and never claim leadership."[204] The strategic objective of dominance is firm and unalterable but packaged in such a manner to provoke the least resistance or effective counter-balancing coalition.

Understanding *shi* allows analysts, first, to understand why the Chinese place great weight on intelligence gathering, with one of the fundamental strategic goals of intelligence operations is being able to identify and shape events before they become sources of confrontation or contention. With this strategy, the adversary can do nothing about the situation when he is confronted with it. Not only will the battle be won before it is fought, if the Chinese have done their homework, there will not be a battle in the first place. The Chinese seek to win without confrontation. They rather seek to win by placing the opponent in such a position that he withdraws or retreats of his own accord.

Second, *shi* provides the Chinese with both a grounding for their policies and a flexibility for them. One core interest exists and it is one that does not permit flexibility in intent: to advance China's fundamental interest of dominance. Once we move beyond China's core interest, we understand

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[204] Deng's 24-character instruction is quoted in Henry Kissinger, *On China* (New York: Penguin Books, 2011), p. 438.

that everything else is flexible. The Chinese will change their policies as events develop. The implication of this is that China's policies will be hard to predict, and may border on what seems to be impulsive, such as the dramatic intervention in the Korean War.

Third, *shi* allows us to understand how the Chinese will work to undermine their adversaries in the expectation that they will be able to defeat their adversaries without direct confrontation but rather to bring about their collapse from present conditions. Importantly, however, if conflict does occur, the Chinese will seek to defeat their adversaries at the beginning of the conflict with asymmetric strategies and with surprise attacks. As Henry Kissinger writes:

> the strategist mastering *shi* is akin to water flowing downhill, automatically finding the right swiftest and easiest course. A successful commander waits before charging headlong into battle. He shies away from an enemy's strength; he spends his time observing and cultivating changes in the strategic landscape. He studies the enemy's preparations and his morale, husbands resources and defines them carefully, and plays on his opponent's psychological weaknesses—until at last he perceives the opportune moment to strike the enemy at the weakest point. He then deploys his resources swiftly and suddenly, rushing "downhill" along the path of least resistance, in an assertion of superiority that careful timing and preparation have rendered a fait accompli.[205]

[205] Kissinger, *On China*, p. 30.

Discerning *shi* properly allows U.S. policymakers to grasp why the Chinese will place great emphasis on a bold, strategically clever attack. For the Chinese, *shi* in this context may be thought of as a "stratagem" intended to be a masterstroke, not just solid but brilliant. It should be thought of as a strategy of strategic cleverness.[206]

In the Chinese strategic tradition, the greatest hero is Zhuge Liang of the Three Kingdoms, a leader best known for his ingenious and deceptive stratagems. Without question, Chinese science and technology have advanced, and this has emboldened the already powerful cultural conviction that China can get much more with less because it is cleverer and better than its adversaries, not only intellectually but also materially.

In its military operations, China will seek to combine local superiority with diplomatic advantage and operational surprise. China will seek to use force decisively, taking maximum advantage of its relative superiorities to create new realities. The Chinese will ruthlessly exploit the openness of democratic societies. The expectation will be that, faced with a rapid, decisive, and quickly terminated operation, the United States and its allies will be unable to do anything effectively and, as a result, will accept the new status quo.

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[206] Waldron, "The Art of *Shi*," p. 39.

Such a conception is extremely dangerous, and many conflicts in history have been based on such profoundly misguided beliefs, as with the Japanese decision to attack Great Britain, the Netherlands, and the United States in December 1941. The likelihood that the Chinese are guided along a similar path by their strategic worldview is high. The Chinese have the conviction that they possess superior strategic knowledge and ability, and that China will always be able to outfox and outmaneuver its strategic foes. Likewise, they have the belief that strategic deception plays a key role in their superior strategic abilities. In their self-image, the Han are more cunning and virtuous than the rest. The United States, in contrast, is easily manipulated, although strong and violent, just like an adolescent.

But such an approach seriously underestimates the ability of the United States and other states to identify and respond. The conceit among the Chinese that they can manipulate others is supremely dangerous for the stability of Asia.

At the same time, it is a great advantage for the United States to play upon that overconfidence. To understand that an overconfident China will continue to make the mistakes it already has in the South China or East China Sea disputes. That is, making threats, issuing demands, heavy-handed shows of force, are generated by China's overconfidence. That makes it much easier

for the United States to balance China, as I will argue in Chapter Four.

II. G. Racism Is Also a Strategic Asset that Makes China a Formidable Adversary

As lamentable as it is, Chinese racism also is a strategic asset that makes a formidable adversary. Throughout history states have made appeals based on racism and ethnocentrism for purposes of unity, identity, sense of self and identification, and popular support. This is not social imperialism, generating an enemy due to overcoming social or class divisions within a state, as was the case in Wilhelmine Germany. Instead, this is the interaction between the Chinese government and its people. The government educates the people to be proud of being Han and of China. In turn, the Chinese people are proud and fiercely patriotic as well as ethnocentric, racist, and xenophobic. This aids the government and permits them to maintain high levels of popular support. Yet, the situation runs very deep; the government may change, but popular sentiments will not because they are anchored in fundamental Chinese identity, which is not questioned within the society.

There are three critical consequences that result from this. The first is the sense of unity the Chinese possess. This unity provides three major advantages for them. First, it allows the Chinese to have a sense of belonging together. As argued in Chapter One, a fundamental human need is to know where one stands in a community, to which groups one belongs and does not

belong. Chinese ethnocentrism, xenophobia, and racist views of others, answer those questions wholly and satisfactorily for the majority of the people. Despite their differences, they are one, and are told so, generation after generation, by their family, culture, history, and government.

Second, it allows the Chinese to have a strong sense of identity, which in turn permits them to weather adversity, secure and confidant that the rest of the nation is with them. Knowing that one is not alone, but is backed by a over a billion others who share the same thoughts, cultural references, and attitudes is reassuring for each Han Chinese. It truth, they are a society with considerable social capital that Harvard sociologist Robert Putnam identifies as central to the prosperity of a community.[207] It makes it far more likely that they will respond to government entreaties to support the nation as it advances or when it is challenged by domestic social or economic problems or by other states. Huntington identified the importance of this, and lamented its loss in the United States.

Third, China is not plagued by self-doubt or guilt about its past. It does not revel in its defeats; instead it recasts them in a patriotic light, as with the 1979 invasion of Vietnam, or abuses of its minorities. To the

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[207] Robert D. Putnam, *Bowling Alone: The Collapse and Revival of American Community* (New York: Simon and Schuster, 2001); and Putnam, Lewis Feldstein, and Donald J. Cohen, *Better Together: Restoring the American Community* (New York: Simon and Schuster, 2004).

contrary, China's victories are lauded, and a self-congratulatory message and image is portrayed. China does not face a "culture war" like the one currently taking place in the United States. There is no fundamental debate about the identity of the country, the principles it embodies, who belongs and who does not, and the direction in which the country should move. This gives the Chinese government a considerable advantage as a unicultural state in competition with the multicultural United States. In sum, it will be hard to cause a loss of confidence with the Chinese.

No doubt, this situation contains disadvantages for the Chinese. The lack of doubt or willingness to question makes them a society that is neither self-reflective nor tolerant, and those are vulnerabilities that may be exploited, as we will see in the next chapter. Yet, these may be exploited only to a degree, and should the U.S. call attention to them, any countervailing message will be more effectively targeted against international audiences than the Chinese themselves.

II. H. The Chinese Are Not Open to a Civil Rights Movement

The next major consequence is that the Chinese are never going to go through a civil rights movement like the one that occurred in the United States. This is because, first, they have no freedom of the press, freedom to petition their government, and freedom to assemble, all of which are

necessary to support a civil rights movement. Second, there is no political drive or consciousness for equality in Chinese thought. As discussed above, equality is associated with Maoism, and rejected in today's China, where inequality is accepted and celebrated. In addition, there is no notion of civil rights in Chinese political thought or, practically, in jurisprudence.

These elements unite to force the conclusion that there is little likelihood that the Chinese attitudes to race and endemic racism will change. There is no force from below, no popular movement demanding minority rights, to compel them to do so. Equally, there is no motivation to force such a change from above.

This is contrast to the more dynamic and responsive societies of the West. The political systems of the West are open to profound change, and have demonstrated the ability to make significant reforms in civil and human rights over generational time. There is ample proof of the West's more adaptive and inclusive political system. The United States removed the principal obstacles to equality for blacks and other racial minorities with *Brown v. Board of Education* in 1954, and the Civil Rights and Voting Rights Acts of 1964 and 1965. The Immigration Act of 1965 opened the possibility of immigration to the United States for people previously excluded because of race. The United States government has labored mightily to improve the

condition of all minorities within its borders through official policies backed by cultural and other measures, such as the influence of Hollywood and popular culture.

While China remains a racist state and has made no effort to be as inclusive as the West, it is important to recognize that the Chinese government is adaptive. As James Reilly argues forcefully, China is a robust and flexible regime that has adapted to rapid growth with remarkable speed and effectiveness.[208] Reilly's study of public opinion's influence on Beijing's foreign policy reveals that the government adapts to public opinion as well as shapes it. In essence, the Party uses persuasion to maintain its rule. Reilly submits that the Party combines tolerance and responsiveness with persuasion and repression. This "responsive authoritarianism" accounts for why the Chinese Communist Party has thrived since the end of the Cold War. At root, the Chinese government has developed a mechanism for tolerating and responding to sporadic instances of public emotion while maintaining its overall foreign policy trajectory.

This allows us to account for the Party's intermittent tolerance of popular protests and responsiveness to popular pressures, as well as its subsequent crackdowns and policy reversals. It also accounts for the

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[208] James Reilly, *Strong Society, Smart State: The Rise of Public Opinion in China's Japan Policy* (New York: Columbia University Press, 2012).

considerable consistency in Beijing's relationships with foreign governments. There were major protests against Indonesia in 1998, the United States in 1999, Japan in 2010 and 2012. Following each instance, Chinese leaders moved quickly to mitigate the damage to bilateral relations, offering reassurances and working to stabilize bilateral ties. Instead of acceding to popular nationalist pressures for a more aggressive foreign policy, Chinese policy makers have developed an effect strategy for responding to sporadic outbursts of popular anger on foreign policy. By making partial policy shifts or rhetorical gestures in the directions demanded by the public, Chinese leaders enable the release of public anger and demonstrate a modicum of responsiveness to public opinion. Such shifts are generally part of a broader strategy of readjusting their overall foreign policy toward an approach that cools public anger, redirects the public's attention, and mitigates any diplomatic fallout resulting from following too closely the dictates of an emotional public.

By combining a diplomatic strategy designed to reshape the external environment with its considerable propaganda power to refocus attention, limit the flow of information, and project selective images to large segments of the public, the Party manages to end public mobilization without irreparable harm to foreign relations and without leaving behind a mass of

dissatisfied, frustrated citizens. Simply put, the rise of popular nationalism in reform-era China has not correlated with a rise in military aggression. One reason why this is the case is that, while China is authoritarian, its authoritarianism is based on Party rule, not military rule.

Party-based regimes are able to avoid falling into foreign aggression as easily is there ability to tolerate and respond to public anger in selective fashion. It is the *combination* of toleration and repression that enables Chinese leaders to avoid ruin. The repeated eruption and temporary influence of popular protests in China in response to perceived slights to national pride signal not the emergence of an uncontrollable populace, but rather the manifestation of policy-makers' strategic and nuanced response to social pressures.

In a thoughtful study, Xi Chen makes a related argument.[209] China is an example of a rare phenomenon. It is a strong authoritarian regime that has accommodated or facilitated widespread and routinized popular collective action for a relatively long period of time. China has witnessed a dramatic change in government-citizen interaction in the Reform Era, with a great upsurge in collective protests since the early 1990s. For Chen, this is

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[209] Xi Chen, *Social Protests and Contentious Authoritarianism in China* (New York: Cambridge University Press, 2012).

due to the transition to a market economy.[210] This relaxed the degree to which popular dissention would be permitted. Second, extensive economic transitions have engendered many sufferings and grievances among large sections of the population. Third, the way ordinary people connect to the Party and government changed radically in the Reform Era. With the abolition of collectivization in the countryside and the substantial decline of work units in urban areas, ordinary people have largely parted with the unit system of local control. According to Chen, "they have lost most of the benefits and security associated with the old system, but they have also been freed from," their dependence on local agents, which pushes them toward protest as a mechanism of influence.[211]

United States decision-makers should recognize that China is quickly joining the rest of the world, but the terms on which China is integrating are unique, never before witnessed in history. If China is true to its history, it is very likely to remain aloof, ensconced in a hierarchical view of humanity, its sense of superiority resting on a combination of cultural hubris and racism. The implications for the rest of the world of this Sinocentric worldview are profound.

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[210] Chen, *Social Protests and Contentious Authoritarianism in China*, p. 191.
[211] Chen, *Social Protests and Contentious Authoritarianism in China*, p. 191.

I. I. The Treatment of Christians and Ethnic Minorities Within China

The study now addresses the treatment of Christians and ethnic minorities within China. Chinese racism has less of an impact on Christianity, particularly because the Catholic Church and Protestant dominations have been Sinified. Discrimination against ethnic minorities is considerable and will remain so.

Religious life in China has recovered from its suppression during the Maoist years. There are only five recognized religions in China: Buddhism, Islam, Daoism, Catholicism, and Protestantism. China's Christian tradition dates from the early 1500s. The Portuguese and Dutch were the first to bring Christianity, and Christian missionary zeal reached its peak in the early part of the 20th Century.

The relationship between Christianity and China is complicated with many reverses and considerable tension. As historian of China, and of the Christian presence in China, David Mungello argues, the Christians, especially the Jesuit Order, were first welcomed into China and successful in converting prominent scholar-officials. "This success came through the conscious blending of Confucianism with Christianity while criticizing Buddhism and Daoism."[212] As Christian Orders proliferated, and more of the elite and lower

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[212] Mugello, *The Great Encounter of China and the West, 1500-1800*, p. 21.

classes were converted, the Court's attitude began to change, and elements of Christian proselytizing were prohibited.

As a response, the Franciscans and Church lay groups began meeting in secret, which was unfortunate given the Court's suspicion of secret societies, which have a two-thousand-year history in China. In the consideration of the Court, they are linked to peasant uprisings, for which the societies provide organization around an ideology. The uprisings are nearly always aimed at the scholar-gentry class, who were viewed by the peasants as their oppressors because they controlled the land and bureaucracy. Because of this hostility, the scholar-officials viewed secret societies with suspicion and enmity. "Like the secret societies, Christianity was often accused by the literati of subversive practices, such as prohibiting ancestor worship, meeting in small groups, using magical techniques to control followers, deceiving the people, and failing to observe customary distinctions of age and sex."[213]

Anti-Christian sentiment gradually began to grow, especially after the Manchu conquest of 1644, and as Mungello submits, Chinese ethnocentrism,

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[213] Mugello, *The Great Encounter of China and the West, 1500-1800*, p. 27.

chauvinism, and xenophobia became worse and Christianity was suppressed, although never eliminated.[214]

More recently, Christianity and nationalism in modern Chinese history is equally difficult. At the peak of nationalist agitation in the mid-1920s, many radical Chinese began to believe that Christianity was a tool of Western imperialism and that it was a narrow and intolerant faith. This was part of a larger reaction to religion; modern men did not need such superstitions. At the same time others saw Christianity as part of China's rebirth: Why should the religion not serve the same purpose in China as it had in the West, where it had given meaning to unsettled lives, and steadiness through uncertain times, for almost two thousand years? For China's Christians it was not difficult to see themselves as part of their country's salvation, in both a religious and secular sense, even if their opponents objected to it.

Today, the government recognizes that religion is able to do many positive acts in a society, such as support for orphanages, and acknowledges the need for people to have a religious grounding since a moral framework may be lost in the demands of a market economy. The debate now is an echo

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[214] Mugello, *The Great Encounter of China and the West, 1500-1800*, pp. 33-36, 53-65.

of the one they had in the 1800s, how do they preserve the essence of what is Chinese in an era dominated by Western ideas.

The government is fearful of religion in the sense that uncontrolled religion may be a threat: a challenge to Beijing's authority. The government has considerable fear about cults, and the contagion of foreign ideas, especially following the Tiananmen Square massacre of 1989.[215] So, in order to be recognized, religions in China must be autonomous as interpreted by the government. That is, autonomy is defined as having no foreign missions; no foreign subsidy; and no interference from foreign ecclesiastics.[216] Because of this, Beijing favors evangelical sects, as Guy Sorman writes: "The truth is that Protestants outnumber Catholics ten to one. But the Party finds it easier to deal with scattered evangelical groups than with an organized Catholic Church that receives its orders from outside. Between the Vatican and Yankee Protestantism, the Communist Party prefers the Americans."[217]

The result is a state church *and* an underground church in China. According to Mungello, the best thing that happened to Christianity in China

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[215] On the last example, see M.E. Sarotte, "China's Fear of Contagion: Tiananmen Square and the Power of the European Example," *International Security*, Vol. 37, No. 2 (Fall 2012), pp. 156-182.
[216] Guy Sorman, *The Empire of Lies: The Truth about China in the Twenty-First Century* (New York: Encounter Books, 2008), p. 52.
[217] Sorman, p. 71.

is that Mao expelled the missionaries.[218] This forced the churches to become fully Chinese. Contrary to what was often argued, "Christianity (along with Confucianism) had not died out in Communist China, but had gone underground. When it began to re-emerge in the 1980s, it was far more Sinified than when it had been dominated by Western missionaries and mission broads prior to 1951."[219] During the intervening years, it had deepened its roots in Chinese culture. Now, to the degree that there is tension, it is Chinese Christian versus Chinese non-Christian, which is very different than foreign missionary versus Chinese.

It must be noted in this discussion of China's treatment of Christian and ethnic minorities that there is significant discrimination against villagers. One-third of Shanghai's 17 million inhabitants are migrants, yet it is virtually impossible for them to become citizens with their identity cards, which in principle gives them access to public services. In Shanghai, as in all other Chinese cities, there is a sort of local nationality by blood. The municipality decided to issue local identity cards on the basis of marriage, but the conditions are very restrictive. A non-Shanghai woman married to a Shanghai man can get nationality after fifteen years of her marriage, which

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[218] D.E. Mungello, "Reinterpreting the History of Christianity in China," *The Historical Journal*, Vol. 55, No. 2 (2012), pp. 533-552.
[219] Mungello, "Reinterpreting the History of Christianity in China," p. 538.

means the couple's children will automatically become citizens of Shanghai, as nationality is handed down by the mother….a man from Shanghai would have to be "very poor or handicapped" to marry a "foreigner." What happens if a non-Shanghai man marries a Shanghai woman?...The law has not provided for such an eventuality…because it was unthinkable that a Shanghai woman would marry an "outsider."[220]

When we consider China's treatment of its indigenous ethnic minorities, we begin with the recognition that there are 56 different minorities in China. But in daily life most Chinese do not come into contact with minorities since they are on the periphery, both literally and metaphorically. Nonetheless, for the Chinese, there is a clear hierarchy among them. One exception to the usually negative perception of minorities is the Manchurians, whom the Chinese commonly see as physically attractive, and are considered to be different and nobler than other minorities.

The two most important minority groups are Uighurs and the Tibetans, and it is to the discussion of each that the study now turns. Broadly, the relationship between the Han Chinese and these minorities are very bad.[221] The Han resent the affirmative action policies in support of the

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[220] Sorman, p. 87.
[221] Jacques provides a nice overview of the discrimination against Uighurs and Tibetans in *When China Rules the World*, pp. 244-256.

Uighurs or Tibetans, their lack of gratitude for what China has provided, and what is seen as their rebellious nature. For the minorities, directly put, they see the Han as occupiers of their ancestral lands, abusive and contemptuous toward them, and bent on extermination of their way of life and national identities, while the rest of world tacitly accepts it.

I. I. 1 China's "Wild West": The Uighurs in Xinjiang

Ethnic tensions between the Han and Uighurs in China remain high. Animosity between Han and Uighurs came to a head in July 2009 when over 200 people were confirmed killed during rioting, principally in Urumqi. The grievances of the Uighur population of Xinjiang have been exacerbated by mass immigration from other parts of China, which is part of Beijing's Sinification campaign to turn the majority Uighur population into a minority in Xinjiang by resettling Han Chinese. The Uighurs are a Muslim Turkic people, whose language and culture overlaps to a significant degree with the Turkish or Central Asian Turkic peoples.

The opinions of both the Uighurs and Han of the other group are stark and contribute to the ethnic conflict. The Uighurs commonly portray the Han as an invading force that is dispossessing and oppressing their culture, while the Han typically consider Uighurs to be lazy and are resentful that the large investment China is pouring into the region is ungratefully received. Groups

of Uighur rampaged through the city after stories circulated of migrant Uighur workers in China's southern Guangdong province facing abuse from local Han.[222] The problem was so acute that President Hu Jintao had to leave the G8 Summit in L'Aquila, Italy, in order to manage the situation.

The 2009 events served as a watershed for Beijing's strategy for the province, and a series of changes were rapidly made to party leadership. Urumqi Party Secretary Li Zhi and Xinjiang Public Security Bureau (PSB) head Liu Yaohau were held responsible for the Urumqi police's slow response to the riot, and were sacked in September 2009.

Later, in April 2010, Wang was moved to the nominally more senior position of deputy secretary of the political and legislative affairs committee in Beijing. Zhang Chunxian, formerly party secretary of Hunan province, was appointed to replace him, with the state media calling attention to his efforts to develop the province and his open approach to the media.

Zhang's theme was further developed in May 2010 when the Communist Party held a Xinjiang Work Conference that built on Hu's statement in the wake of the riots that "the fundamental way to resolve the

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[222] The immediate cause of the riot according to "Wild West: Ethnic Tensions Remain High China's Xinjiang," *HIS Jane's Intelligence Review*, Vol. 24, No. 8 (August 2012), pp. 14-17.

Xinjiang problem is to expedite development in Xinjiang."[223] Following the conference, a number of new policies were announced, including the pairing of 19 of China's wealthier provinces or cities with locales in Xinjiang. In addition to sending between 0.3% and 0.6% of their annual budget as aid, the wealthier provinces were made responsible for providing technical support, including posting staff to Xinjiang. Additionally, Beijing increased its budget spent on the region and ordered the large natural resource companies that mine the hydrocarbon wealth to leave 5% of the taxes in the province. Finally, three special economic zones were established in Kashgar, Khorogos, and Alataw—the later two bordering Kazakhstan—in an effort to replicate the success of previous Special Economic Zones, such as in Shenzhen.

This modernization comes at a cost, and maybe designed to further destroy Uighur culture under the guise of development. Kashgar's transformation into a Special Economic Zone entailed the demolition of the historic old city. This was done under the auspices of making it earthquake-proof and to improve access to public services. Uighurs interpreted it as further destruction of their cultural heritage and part of Beijing's effort to erode gradually the historical memory and cultural identity of the Uighur people.

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[223] Quoted in "Wild West," *IHS Jane's Intelligence Review*, p. 15.

There has been a noticeable increase in violence in the province, particularly in the south, where Uighurs remain a majority of the population. In June 2012, the government closed down a madrassah, which it accused of being illegal. Almost a year before, in July 2011, a group of Uighurs stormed a police station in Hotan, a city south of Kashgar, having earlier attacked a nearby tax office. According to officials in Beijing, during the assault, the men raised a flag proclaiming: "Allah is the only God. In the name of Allah." This is consistent with local reports that blamed the attack as a response to the crackdown on the use of the hijab and niqab by Uighur women.

A week later, in early August, local media reported that trouble flared in Kashgar when one, or possibly two, vehicle-borne improvised explosive devices (VBIEDs) misfired in public spaces around the city before men armed with knives hijacked a vehicle and drove it into a crowed, killing eight and injuring 27. A similar incident occurred a day later, and was directed at a largely-Han crowd. December 2011 marked another incident in Guma county in the Hotan prefecture; and two months later, on 28 February 2012, another stabbing incident took place, where it seems that 13 Uighur men attacked passersby. Finally, in June 2012, the government raided a religious school in Hotan, which injured several children. Later that month, six Uighur men attempted to hijack a flight leaving from Hotan to call attention to anti-

Uighur discrimination before they were overpowered by the crew and passengers.[224]

What is notable about these incidents in Kashgar is that there is evidence some of the militants had trained in Pakistan. Local authorities claimed that a militant detained during the second attack had claimed the leader of his unit had trained in Pakistan. Given the succession of the attacks, it is probable that one group was responsible for both attacks. That suggests both organization and direction, and so aroused China's suspicion that the attacks had a connection to Pakistani trained groups. This was reinforced the following month when the Pakistan-based Uighur jihadist group the Turkistan Islamic Party (TIP), referred to by the Chinese as the East Turkistan Islamic Movement, released a video claiming responsibility for the attacks. According to the video, the TIP had trained Tiliwaldi, one of the two men killed on the outskirts of Kashgar following the second day of attacks, before dispatching him to Xinjiang to carry out the mission. According to *IHS Janes*, the video seemed to show Tiliwaldi wrestling with others in a camp purportedly in Waziristan, part of Pakistan's Federally Administered Tribal Areas.[225]

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[224] "Fast and Loose," *The Economist*, August 18, 2012, p. 39.
[225] "Wild West," *IHS Jane's Intelligence Review*, p. 16.

While none of the other incidents were claimed by the TIP or any other external group, the Pakistani press reported in the wake of the Kashgar incidents that Hu had called President Asif Zardari of Pakistan to express his concern abut extremist activity in Pakistan's lawless territories. This resulted in a rapid press release condemning the attacks by the Pakistani Foreign Ministry, while the director general of the Directorate for Inter-Services Intelligence (ISI), Ahmed Shuja Pasha, was sent on a visit to China. Zardari followed suit in September, notably visiting Urumqi in honor of the first Eurasian Expo.

Despite Islamabad's eagerness to please, there are signs that China is increasingly frustrated with Pakistan, blaming it, at least in part, for the repeated incidents in Xinjiang. In the wake of the Yecheng stabbings in February 2012, Chairman Nur Bekri, the most senior Uighur in the Xinjiang government, spoke of the many links between extremists in the province and a "neighboring country," assumed to be Pakistan.

Subsequently, in April, the Ministry of Public Security in Beijing released a wanted notice for six individuals described as having links to "a South Asian" country and being members of "East Turkestan groups," which is the Chinese media's generic name for Uighur separatist groups. Accordingly, China's security forces are clearly focused on the links between

Xinjiang and militants in Pakistan, Afghanistan, and the countries of Central Asia. A delegation of senior People's Liberation Army officers were sent to Pakistan in late 2011/early 2012 to attend talks. Nevertheless, it remains unclear how much these incidents can really be blamed on "outside forces," as China's government claims. While there was a clear claim of responsibility from the TIP for the Kashgar attacks, which included the deployment of up to two VBIEDs—something that might have required outside training or assistance—there is no indication that foreign groups or domestic groups outside of China were involved in the attacks.

Instead, most incidents appear to be the result of local grievances that have escalated out of control. Although the repeated tactic of mass stabbings may be more than a coincidence, it is also reasonable to expect that it would be the favored method of attack in a society where access to firearms and explosives is closely controlled.

The fundamental problem remains that over the three years since the 2009 riots, the Uighur situation is not better. The prosperity that was meant to be generated by the 2010 Xinjiang work conference plan has not yet trickled down, with many of the large projects in limbo as the government has difficulty convincing investors that the province is a good investment opportunity.

While the infrastructure in the province has been rapidly and effectively upgraded, making travel around the province easier, and it is clear that the "paired" provinces have spent considerable money in Xinjiang, it is not transparent that it is having the desired effect of reducing discontent there. Social dissatisfaction remains high on all sides. The Uighur complaints are consistent: they see Han overwhelming the province and a lack of opportunities for Uighurs. Uighurs identify government efforts to interfere with religious practices during the Muslim Ramadan holiday. Exiled Uighur activists see it as the continuation of the government's attempts to replace religion as a centerpiece of Uighur life. According to Alim Seytoff of the Uighur American Association "the whole idea," behind Beijing's efforts, "is to secularize the Uighur people."[226] And one might add, marginalize them in their own province. But the concerns are reciprocal, if not existential for the Han. Common Han remarks are fear of going into Uighur areas due to fears of crime and attack.

The development challenges facing Xinjiang are exacerbating the longstanding ethnic divisions that plague the province. The repeated incidents of low-level violence directed by the Uighurs at the Han may have outside links and be inspired by jihadist beliefs, but, equally, in most cases

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[226] Quoted in "Fast and Loose," *The Economist*, August 18, 2012, p. 39.

they are more likely caused by local explosions of rage, rather than the start of an effective revolutionary movement directed at the government. However, in October 2012, there were reports that Chinese Muslim separatists are fighting in Syria alongside al Qaeda and associated movements, all of which can only be alarming for Beijing.[227]

The implications of Uighur oppression for the Pakistani-Chinese relationship is clear from Beijing's perspective. The Chinese have an immediate concern with jihadist militants and their efforts to radicalize the Uighur population, but Beijing is also worried about regional instability, including Afghanistan.

The June 2012 decision to allow Afghanistan into the Shanghai Cooperation Organization (SCO) as an observer state, and the Chinese signing of a strategic partnership agreement with Afghanistan, all show a growing Chinese focus on Afghanistan and its security problems. At the same time, Afghanistan serves as an avenue for Beijing to advance its influence in the region as the United States presence is reduced, and to stay a step ahead of the Russians, who are sure to attempt to reassert their influence with Kabul as NATO's diminishes.

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[227] Christopher Bodeen, "Beijing Report Says Chinese Muslims Are in Syria," *Associated Press*, October 29, 2012, available at: http://ratsass.krvw.com/mailman/private/access/attachments/20121029/53013206/attachment.html.

While Xinjiang remains China's most pressing internal security issue, Beijing's desire to stabilize its western frontier is prompting a deeper engagement in Central and South Asia. However, more is involved in this situation than Beijing's concern about stability on its borders and security in Xinjiang. First, it must be acknowledged that China has a more offensive goal of balancing or supplanting the presence of the United States and India in these areas, while simultaneously preventing the resurgence of Moscow's influence. When we consider the issue strategically, central and South Asia is the western reciprocal of the territorial disputes and power contest occurring in the South and East China Seas. Second, Beijing's concern for energy compels a major presence in this region.

I. I. 2. Continued Unrest in Tibet

As with Xinjiang, Tibet is an Autonomous Region within China with a degree of separatism, although the separatist problem is not as great as in Xinjiang. Since 2009, there have been at least 60 reported incidents of self-immolation in the Tibet Autonomous Region, as well as in Tibetan prefectures in neighboring provinces. The most recent of which, at the time of writing, were two young Tibetans both of whom immolated themselves to death in

October 2012, the first outside a police station in Amchok, and the second in Sangchu, both locations in the Tibetan Autonomous Prefecture of Kanlho.[228]

According to the exiled Tibetan movement in Dharamshala, India, the deaths are protests against Beijing's increasingly tight control over China's estimated 5.5 million Tibetans, 2.6 million of which are living in the TAR. Since unrest swept through the TAR in March 2008, Chinese security forces have cracked down. Beijing is particularly worried over what will happen when the 77-year-old Dalai Lama dies. There is concern that radical Tibetan nationalists, both within the exiled movement in India as well as in China, might seize control of what it describes as the "splittist" movement and may advocate non-peaceful or even insurgent tactics against the central authorities.

With the Dalai Lama's death, anti-Chinese sentiments, among even ordinary Tibetans, may also rise due to the controversy over how to select a reincarnation for the 14th Dalai Lama. Respected high priests (lamas) in Tibet, as well as the Dalai Lama's aides in India, have insisted that choosing the successor is purely a Tibetan matter. However, that is unacceptable to

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[228] Nirmala Carvalho, "The Massacre Tibetan Continues, Two Other Young Men Set Themselves on Fire," *AsiaNews*, October 27, 2012, available at: http://ratsass.krvw.com/mailman/private/access/attachments/20121029/0a62bd11/attachment.html. For a general overview see Willy Lam, "TAR Wars: China Cracks Down on Tibetan Unrest," *IHS Jane's Intelligence Review*, Vol. 24, No. 9 (September 2012), pp. 54-55.

Beijing, and it has stated that its approval is a prerequisite for the confirmation of the 15th Dalai Lama.

To keep order, Beijing is expected to increase the police presence in the region. But many, less coercive measures are taken as well. Since 2011, extra emphasis has been given to "patriotic education" for children as young as five years old. The Chinese are experts at using their educational system to indoctrinate the population, even among minority peoples and dissidents. This educational program will focus on ensuring Chinese nationalism and combating any separatist political leanings. This was made clear during a July 2012 inspection tour by the current CCP party secretary of Tibet, Chen Quanguo, in the Linzhi Prefecture outside Lhasa. Chen, a former governor of Hebei Province who once had a reputation for being a relative moderate, urged educational officials and teachers to "ensure that pupils will from infancy feel gratitude to the party, listen to the party's words and follow the party's instructions" in order to "build a firm line of ideological defense to counter secessionism and to safeguard stability."[229]

Second, in the coming decade, Beijing will redouble its economic outlays in the TAR, just as they are doing in Xinjiang. About $51 billion has been earmarked for 226 projects, largely infrastructure development. Again,

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[229] Chen quoted in Lam, "TAR Wars," p. 54.

as with Xinjiang, Chinese authorities are "partnering" prosperous cities along the eastern coast, such as Shanghai, as well as key state-owned enterprises, with localities in the TAR. In theory, what Hu has called the "leap-forward in Tibetan development" is geared towards boosting living standards and providing employment opportunities for Tibetans. However, scholars in Western Tibet have pointed out that most of the money will go to Chinese entrepreneurs, managers, firms, and workers rather than Tibetans, as most of the indigenous Tibetans are farmers.

Apart from facilitating the movement of goods and military materiel into Tibet, upgrading the infrastructure will serve the third prong of Beijing's Tibet strategy: the large scale migration of Han Chinese into Tibet. Traditionally, the high-altitude climate of Tibet has served as a deterrent to the influx of a large number of Han. Yet, Beijing is counting on that improved transport, coupled with enhanced economic opportunities, will be the incentive the Han need to come to Tibet. Official Chinese figures from 2010 sowed that 90% of Tibet's population of 2.9 million is Tibetan. However, the exiled government and international human rights organizations claim that the number of Han is higher.

The path Beijing has selected is likely to fuel further outbreaks of unrest. While Beijing had always maintained a large police and military

presence in Tibet, it had always gone through the motions of listening to the grievances of the Tibetans. However talks between Beijing and the Dalai Lama ended in January 2010 after more than 30 years, and are not likely to resume.

There is concern that if the Dalai Lama dies without any major concessions from the Chinese side in the attempt to resolve the difficulties, then it is probable that a few will turn to more radical methods of achieving greater independence for Tibet.

A final consideration that reaffirms China's tough stance on Tibet is the geopolitical significance of the Himalayan highlands. If tensions with India were to increase, as they are likely to given the economic growth of both states, Beijing's control of Tibet enables China to place pressure on India through water resources. Tibet is the origin of several major waterways in Asia, including India's Brahmaputra. Militarizing Tibet, despite New Delhi's protests, could also allow China to substantiate its claim over the northern portion of the Indian state of Arunachal Pradesh, which Beijing calls "Southern Tibet."

Given the importance of Tibet to China's internal concerns, any liberalization would affect Xinjiang negatively from Beijing's perspective, and

China's desire to influence and coerce India if necessary, there is little hope for greater autonomy in Tibet.

When we reflect on China's treatment of minorities we can understand why the tension will remain. First, the sources of this tension, Han racism and discrimination against the Uighurs and Tibetans will not change. Second, there is no possibility of a civil rights movement in support of these groups to change their conditions, so the outlets will remain political violence for some and, for a greater number, resistance to and alienation from Beijing. Fundamentally, of course, minority resistance is likely to be overcome by Beijing's Sinification policy with the result that these peoples will disappear as a discrete nation in the years to come.

Chapter Four
Implications for United States Defense Decision-Makers: Strategic Asymmetries for the United States

This chapter evaluates measures that the United States may advance to take strategic advantage of Chinese racism. To further this goal, the chapter will consider each mechanism in turn, beginning with the positive image the United States may adopt in the competition for ideas in international politics. The chapter argues that Chinese racism is a major asymmetry for the United States. I discuss five major implications for United States decision-makers. Each of these implications provides a foundation for messages designed to undermine or weaken China's position in the world.

In the present confrontation with China, there are many lessons we may learn from the bipolar Cold War. There will be intensive and varied diplomatic, economic and military confrontations. The Third World will be a venue for many of these confrontations. We should expect that there will also be an equally important struggle in the realm of ideas for the support and loyalty of allies throughout the world.

As the Cold War contained a stark and fierce global struggle over ideology and ideas—was capitalism or communism the superior economic

system, representative democracy or totalitarianism, was human freedom to be valued over the belief in the inevitability of socialism—so too does the present period concern equally important and weighty issues. The present global struggle over ideas receives scant attention in the West. Indeed, sensitivity to the existence of the struggle and concern over its outcome gathers little traction even in the specialized, national security press and think tanks. However, as with many asymmetries, the lack of attention does not equal absence of significance.

A large part of the competition between the United States and China occurs in the realm of "soft power." The term was conceived in 1990 by the eminent professor of Government and former-Pentagon official, Joseph S. Nye, Jr., who argued that the United States had large reserves of power and influence that were discrete from its "hard power," or traditional economic, diplomatic, and military means of advancing its interests. In contrast, soft power is about "getting others to want what you want," or "the ability to shape the preferences of others….getting what you want through attraction rather than coercion or payments. It arises from the attractiveness of a

country's culture, political ideals, and policies. When our policies are seen as legitimate in the eyes of others, our soft power is enhanced."[230]

More generally, the components of soft power are also language and the willingness or desire of other peoples to learn the dominant language whether that is English or Mandarin, overseas investments, development assistance, cultural influence, film, television, other aspects of popular culture, education, travel, tourism, and disaster relief.

One of China's most important soft power assets is their informal policy of "no strings" attached to aid. The recipient governments of PRC trade and investment money are often authoritarian and so are attracted to the fact that Chinese aide comes without human rights conditions, good governance requirements, or environmental quality regulations that typically come with Western aid. China markets itself as more efficient and less intrusive for its recipients, and perceives this as a key competitive advantage over the West when wooing governments.

By all accounts, it works. According to Senegal's President Abdoulay Wade, "I have found that a contract that would take five years to discuss, negotiate and sign with the World Bank takes three months when we dealt with Chinese authorities. I am a firm believer in good governance and the

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[230] Joseph S. Nye, Jr., *Soft Power: The Means to Success in World Politics* (New York: Public Affairs, 2004), p. 5, x.

rule of law. But when bureaucracy and senseless red tape impede our ability to act—and when poverty persists while international functionaries drag their feet—African leaders have an obligation to opt for swifter solutions."[231]

While the West may be able to reduce red tape to some degree, there is no desire or willingness at this stage to match Beijing's flexibility and unrestricted investments while holding the recipients of its aid to no international standards. Accordingly, the West should expect its influence will wane to the degree that influence is determined by aid.

A second soft power advantage Beijing has is the fact that much of its foreign investment is carried out by its strong state-owned sector. These state corporations lack transparency, have considerable wealth supported by government, and operate without constraints like annual public reporting. Unlike U.S. or most Western corporations, who lack government patronage and must answer to their shareholders, Chinese state-owned companies have the luxury of being able to take a longer-term, strategic view that advances Chinese national priorities without having the concern for immediate profits that Western firms have.

In the competition with China, its rapid rise is a growing source of international influence, investment, and political and economic power. For

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[231] Senegal President Abdoulaye Wade, "Time for the West to Practise What It Preaches," *Financial Times*, January 24, 2008, p. 6.

many observers, China is seen as trying to project soft power by portraying its own system as an alternative model of economic development.[232] In addition, through Confucian Institutes, and other sources, China is advancing its language and civilization as an alternative to the United States and the West.[233]

When we consider its history, it is clear that the ideological struggle with China has been a long one. The Cold War served as the venue for fierce ideational conflict between Beijing and Washington. With the warming of relations in the 1970s and 1980s, this conflict cooled, only to commence again after the Cold War's end. China analyst Steven Mosher has well studied the ups and downs of the United States' periods of strong support and hatred for China.[234]

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[232] Congressional Research Service, *China's Foreign Policy and "Soft Power" in South America, Asia, and Africa* (Washington, D.C.: U.S. Government Printing Office, 2008).

[233] Consider the efforts to replace English as the language of science. In the summer of 2012, *Quishi Journal* ["求是"杂志], a bi-weekly publication of the Central Committee of the Chinese Communist Party, whose mission is to spread CCP theories and policies, has called for the creation of an academic language system with Chinese characteristics and style to replace English. The objective is to increase China's soft power by enhancing the affinity, appeal, and influence, as well as to draw scholars throughout the world away from English. See ZH, AF, AT, *Quishi Journal*, June 2012, available at: http://www.qstheory.cn/wz/cmyl/201206/t20120611_163264.htm.

[234] Steven W. Mosher, *China Misperceived: American Illusions and Chinese Reality* (New York: Basic Books, 1990).

The first round of the struggle took place two decades ago in the context of the Asian Values school of thought advanced by Lee Kuan Yew in contrast to Francis Fukuyama's "End of History" thesis—the triumph of Western ideas of capitalism and liberal democratic government. This debate has not gone away, but has segued into the struggle over rival economic systems, the "Washington Consensus" versus the "Beijing Consensus."

Does the "Washington Consensus," belief in freedom, free markets, and the law triumph over the "Beijing Consensus" model of state capitalism for modernization, which advances authoritarian government, done by the Communist Party in the case of China, state led economic development, protected markets, and acceptable corruption and crony capitalism. The Beijing Consensus has gained traction with countries that now seek to follow China's path to economic development.[235]

The advantages China receives by engaging in this ideological-cum-economic-cum-strategic struggle are significant. First, China undermines American power and Western economic institutions. Second, in an ideological struggle, China's success is seen as a rising economic and military power, in contrast to America's decline. Third, it assists with alliance relationships by giving developing countries and emerging markets the

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[235] Stefan Halper, *The Beijing Consensus: How China's Authoritarian Model Will Dominate the Twenty-First Century* (New York: Basic Books, 2010).

freedom to deny Western conditions of financial engagement. For example, China also provides states in economic crisis, such as Angola, Cambodia, Chad, Iran, Myanmar, Sudan, Venezuela, and Uzbekistan with an alternative to following the dictates of Western institutions like the International Monetary Fund. Also, they no longer must choose between emulating the Western model or rejecting capitalism.

Equally importantly, Beijing recognizes what Washington did in the 1940s: When it comes to alliances, birds of a feather, flock together. The hegemon creates the alliance structure by enticing or imposing similar economic systems or economic interests and similar ideologies to generate and sustain alliances. The similarity may come from a negative component, unification caused by opposition to Washington, or from a positive component, accepting and welcoming Beijing's organizing principles in political beliefs, governmental structure, or economic operation, which is better for the longevity of the alliance. The new elite of the country accept the values, principles, and norms of Washington's order, and do so generation after generation.

Indeed, one of the great open secrets of Washington's success in creating an international order that reflected its interests was that it required the political, economic, legal, and cultural elite of West Germany,

Italy, and Japan to conform to its major values.[236] To be sure, the process contained difficulties and was resisted in some quarters, think of the anti-Americanism of High Tories like Harold Macmillan and Anthony Eden, but opposition was to no avail. Ministers, or even leaders, could be replaced if they strayed too far from Washington's objectives. Even France under De Gaulle, a thorn in Washington's side if there ever were one, maintained dovetailed strategic interests in Europe once it was clear to him that West German Chancellor Konrad Adenauer would not join him in a "Third Way," an alliance to balance the Soviet Union and the United States.

Today, China's model seems to be more attractive. Stephan Halper, a Senior Fellow in the Department of Politics at the University of Cambridge and Distinguished Fellow at the Nixon Center, argues that China's model is more appealing to the developing world and middle-sized powers, like Iran, Indonesia, Nigeria, Turkey, and Vietnam, than America's market-democratic model captured in the Washington Consensus. China's model gives rise to a strategic challenge for the United States, accelerates the "power shift" from the U.S. to China, and raises the possibility that the world will be increasingly

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[236] See Thomas Alan Schwartz, *America's Germany: John J. McCloy and the Federal Republic of Germany* (Cambridge, Mass.: Harvard University Press, 1991); Michael Beschloss, *The Conquerors: Roosevelt, Truman and the Destruction of Hitler's Germany 1941-1945* (New York: Simon and Schuster, 2002); and Richard L. Merritt, *Democracy Imposed: U.S. Occupation Policy and the German Public, 1945-1949* (New Haven: Yale University Press, 1995).

unsympathetic to the democratic principles and values of the West and to U.S. leadership.

Indeed, China is pushing hard in this direction. United States decision-makers must recognize the alternative message China is developing. Like the Soviets, they seek to cloak their rise using attractive rhetoric, and with appeals to reason and a desire for peace. The appeal is to a "peaceful growth," a "moral standing," and Confucianism, rather than the "march of History" of the Soviet Union, but the ideational threat is even greater than the significant threat posed by the Soviet Union. An excellent example is Yan Xuetong's [阎学通] telling book on the relationship between ancient Chinese political thought and how it informs the rise of China today.[237] His essential argument is that a stable international order stems from the leadership of a humane authority, which has strong "moral standing" and whose rule is accepted, rather than hegemonic with an emphasis on hard power.

It is an important argument because of what it reveals. First, the Chinese see their rise to dominance as the manifestation of rule by "humane authority." Second, they perceive the U.S. as unable to achieve such a lofty goal when it was the dominant state, but it is an obligation of the Chinese to

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[237] Yan Xuetong, *Ancient Chinese Thought, Modern Chinese Power* trans. by Edmund Ryden (Princeton, N.J.: Princeton University Press, 2011).

provide a "better model for society" and international order than that provided by the United States. Third, the Chinese we return to their traditional policy of "Sinification," or requiring weaker states to recognize Chinese leadership and adapt to what Beijing wishes under the mantle of "wise" or "humane" direction.

A major strategic objective for the United States is to defeat Chinese soft power. Thankfully, the United States has much on its side. These combine to yield powerful asymmetries for the United States. First, while it is beyond the boundaries of this study, it must be noted that an important exception to this acceptance of the Beijing Consensus is India. India's great strengths are that it is democracy and that it embraces, in its own way, private enterprise. Like the United States, New Delhi has a commitment to entrepreneurship as the source of innovation and growth. This provides the United States with a continued stake in India's economic growth and prosperity for obvious commercial reasons and global economic expansion, but also for strategic reasons and as an alternative to the Beijing Consensus.[238]

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[238] An exceptional analysis is Pranab Bardhan, *Awakening Giants, Feet of Clay: Assessing the Economic Rise of China and India* (Princeton, N.J.: Princeton University Press, 2010).

In addition, the United States must recognize that it still retains a dominant image in the world. It has an open society, economy, universal ideology that respects individual liberty and freedom, a history of humanitarian aid, an absence of territorial disputes, and no desire to dominate. Moreover, it also has a significant advantage in the fact that it is not a racist state. China is.

I. Five Major Implications for United States Decision-Makers

I. A. Chinese Racism Provides Empirical Evidence of How the Chinese Will Treat Others Now and If/When China Is Dominant

One of the key insights into Chinese future behavior is its behavior in the past. Analysts do have insight into how China will behave in the future based on its behavior in the past when it was the hegemon of Asia, the known world as far as China was concerned.[239] As the study has shown, China sees itself as the center of the universe, all others are inferior, with varying degrees of inferiority. That is not an attractive model for winning allies and influence.

The Chinese have a huge burden imposed on them by their ethnocentrism and racism as well as their past. Their ethnocentrism and

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[239] Excellent studies are Nicola Di Cosmo, *Ancient China and Its Enemies: The Rise of Nomadic Power in East Asian History* (New York: Cambridge University Press, 2002); Nicola Di Cosmo, *Military Culture in Imperial China* (Cambridge, Mass.: Harvard University Press, 2009); and Stewart Gordon, *When Asia Was the World* (Philadelphia: Da Capo Press, 2008).

racism will surface inevitably in their dealings with the rest of the world. As they become more powerful, they will be less restrained about evincing these behaviors and alienating people the world over. No doubt Chinese money and power can buy allies of a kind, and for a period of time, but they are likely to be more fragile than the alliance relationships forged by the United States through its seventy years of engagement.

This study concurs with Jacques' recognition that: "For perhaps the next half-century, it seems unlikely that China will be particularly aggressive. History will continue to weigh heavily on how it handles its growing power, counseling caution and restraint. On the other hand, as China becomes more self-confident, a millennia-old sense of superiority will be increasingly evident in Chinese attitudes."[240] But, rather than being imperialistic in the Western sense, "though this will, over time, become a growing feature as it acquires the interests and instincts of a superpower—China will be characterized by a strongly hierarchical view of the world, embodying the belief that it represents a higher form of civilization than any other."[241]

This recognition dovetails with historian Wang Gungwu's [王赓武] argument that the tributary system was based on hierarchical principles, the

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[240] Jacques, *When China Rules the World*, p. 392.
[241] Jacques, *When China Rules the World*, pp. 392-393.

most important of which "is the principle of superiority."[242] This combination of hierarchy and superiority will reveal itself in China's relations with the rest of the world. One suspects that it will do so first in China's attitude toward Africa and Southeast Asia. Both are barometers of Chinese behavior, and what we are witnessing is that China is acting very boldly, in accord with the principles of power politics and economic exploitation, and directly opposed to any "Confucian" or benign foreign policy.

Wang Gungwu suggests that even when China was forced to abandon the tributary system and adapt to the humiliations and disciplines of the Westphalian system, in which all states are sovereign and enjoy formal equality, China never accepted it. "This doubt partly explains the current fear that, when given the chance, the Chinese may wish to go back to their long-hallowed tradition of treating foreign countries as all alike but equal and inferior to China."[243]

The size of its population and the longevity of its civilization mean than China will always have a different attitude toward its place in the world

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[242] Wang Gungwu, "Early Ming Relations with Southeast Asia: A Background Essay," in John King Fairbank, ed., *The Chinese World Order: Traditional China's Foreign Relations* (Cambridge, Mass.: Harvard University Press, 1968), p. 61.

[243] Wang Gungwu, "Early Ming Relations with Southeast Asia," in *The Chinese World Order*, p. 61.

from the European states and the United States. China has always believed itself to be universal, or what Jacques calls the "Middle Kingdom mentality."[244] In a very real sense, China does not desire to run the world because it already believes itself to be the center of the world, which is its natural role and position. This attitude will strengthen as it becomes a superpower. As a consequence, China will probably be less aggressive than the imperialist powers of the West, but that does not mean that it will be less assertive or less determined to impose its will. Indeed, United States decision-makers should expect that it will do so. Yet, it will do so guided by the inherent belief in its own superiority and the "proper" hierarchy of relations, in which China is the center.

What the great author William Faulkner wrote of life in the American South is true for China today: "The past isn't history. It isn't even past." China's past informs their view of international politics. It will be back to the future, once China is powerful enough. It will be a return to the tribute model of international politics and international leadership, the *koutou*. However, the *koutou* is not an attractive model. In Chinese history, political entities had to accept it. Today, there are other sources and centers of power, including maintaining an alliance with the United States.

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[244] Jacques, *When China Rules the World*, pp. 233-271.

This condition yields a significant asymmetry for the United States. It provides empirical evidence of how the Chinese see non-Han others. Historically, they have perceived darker peoples as inferiors. This remains true today. They are the world's only racist superpower.

Accordingly, United States decision-makers may tailor messages to the global community to aid its alliances among those allies that might be weakening in support, to augment its soft power, and to weaken the attractiveness of the "Beijing Consensus" and China as a model for the world.

I suggest the following themes that United States Defense decision-makers might draw upon as asymmetrical messages to weaken China's support in the world. The first of these themes should be to advance a "reality check" to the global community: "how do Chinese words match Chinese deeds when it comes to treating people fairly and equally."

The second theme is to introduce fault. "Why do the Chinese refuse to change their racist views of the rest of the world?" Or more succinctly, "why don't the Chinese like black people; or Indians; or South East Asians; or Latin Americans?" Attention needs to be called to its eugenics policies as well. "Why do the Chinese support eugenics generations after it was discredited in the West?" Likewise, explicit ties to the policies of Nazi Germany may be

made since both Berlin and Beijing embraced eugenics, and Beijing continues to do so long after it has been discredited.

A third theme is to suggest that there is something profoundly wrong with China's worldview: "Why are the Chinese unable to change their racist views?" Or that there is something deeply iniquitous with China itself, there is something immoral with the Chinese people, or with their elite: "Why is China a racist state?" "Racism has been confronted and defeated worldwide, why is it celebrated in China?"

These themes allow the United States and other states to challenge China's projected image of an oppressed victim of racism with actual empirical reality: China is a racist superpower. It does not equal the horrors of Nazi Germany, but it is far closer to Nazism than it is to a free and tolerant society. More glibly, but not too distant from the reality, the tone should be: "China is not Nazi Germany, but you can see it from there."

I. B. Allows the United States to Undermine China in the Third World: Chinese Appeals for Non-European "Racial Solidarity" Will Be Made, But the United States Can Counter

As they did in the Cold War, and as discussed in Chapter Three, the Chinese will advance an appeal for alliances with and support to the Third World based on racial solidarity. This message will indeed find favor with many in

the Third World. For Beijing, this is a key asymmetry to be used against the United States.

The United States must be prepared for it and poised to counter. In order to so effectively, there must be recognition about what has changed since the United States last confronted a peer competitor. First, this is a racially different peer opponent. Accordingly, race will be a subtext of every interaction. The United States has never faced a racially different opponent, and so race adds a new layer into superpower competition that will have advantages for the United States, as discussed below, as well as disadvantages.

Second, what it means to be developed or modern has changed. For the Third World there will not be a single modernity, there will be many. Until around 1970 modernity was, with the exception of Japan, exclusively Western. Over the last half-century, we have witnessed the emergence of many modernities, drawing on some Western concepts, but ultimately responsible themselves for their ability to mobilize, build upon, and transform their societies. There is the hybridization of what may be learned from the West, regional neighbors, but also through their own history and culture. Thus, modernization in Africa will be different, a hybrid, not Chinese and not Western.

Third, in this competition, the expectation should be that the West will have many lessons to learn. In the face of the growing success of East Asian states, the West will be forced to learn from these states and incorporate their insights and characteristics, such as with respect to fiscal discipline, the importance of rigorous education, and living within one's means. The bottom line is that modernity need no longer include Enlightenment principles and a Western-style rule of law, an independent judiciary and representative government. While that is true, the West provides a far better model of achievement for respect for human rights and individual identity.

China's relationship with African states and aid to that continent has expanded greatly. From the formative period in the 1950s until the late 1970s, China offered African countries aid motivated by political objectives. Much of the aid at that time consisted of infrastructure projects, such as railroads, most notably the famed Tanzania-Zambia (TAZARA) railway of the early 1970s, major buildings, as well as economic developmental projects. Until the late 1970s, when China began its internal modernization process, its engagement in Africa was primarily defined by, first, a shared interest in spreading socialist revolutions, and, second, participating in Cold War rivalries with the United States and Soviet Union. Since its modernization, China has increasingly pursued bilateral ties defined by wealth creation and

other positive economic outcomes rather than ideological considerations. In Africa, China continued to support a variety of aid projects, but it increasingly began to use cost-benefit analyses in making decisions about these projects.

China's growing interest in Latin America and the Caribbean is a relatively recent phenomenon in international politics. Beginning in April 2001, with President Jiang Zemin's 13-day tour of Latin America, a succession of senior Chinese officials have visited Latin American countries to court regional governments, while Latin American leaders also have been frequent visitors in Beijing. China's primary interests in the region are, first, to gain access to raw materials and energy resources through increased trade and investment. All three of China's oil firms, Sinopec (China Petroleum and Chemical Corporation), CNOOC (China National Offshore Oil Corporation), and CNPC (China National Petroleum Corporation), have moved into Latin America with alacrity.[245] China's second objective is to offset or replace U.S. power in the region over the longer-term, as well as to use its presence in the region to collect intelligence against the United States.

Since the 1990s, China's rapid growth has heavily informed its interests in Africa. Importantly, China has touted its doctrine of political noninterference and respect for state sovereignty that aids it in its dealings

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[245] On China's grab for resources, oil, in particular, see Pádraig Carmody, *The New Scramble for Africa* (Malden, Mass.: Polity Press, 2011), pp. 65-111.

with African states. The first of China's interests in Africa have been to secure the continent's resources, especially energy resources.[246] To advance that end, Chinese diplomacy labors to ensure that future Chinese aid and investment remains welcomed in Africa. Due to its political history and economic success, the PRC sees itself as a leader of developing countries. Its second objective is to offset or replace U.S. and European power in the region over the longer-term, as well as to use its presence in the region for basis to advance its interests.

To advance these ends, Beijing is acting with dispatch. As of October 2012, China has launched 31 Confucius Institutes and five Confucius Classrooms in 26 African countries.[247] From 2010-2012, China has provided 5,710 government scholarships to African countries. It plans to implement the "African Talent Project," which will recruit and support future African leaders. Over the next three years, China will train 30,000 professionals in different fields and provide 18,000 government scholarships, as well as job

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[246] This issue is well explored in John Ghazvinian, *Untapped: The Scramble for Africa's Oil* (New York: Harcourt, Inc., 2007); and Ian Taylor, *China's New Role in Africa* (Boulder, Colo.: Lynne Rienner, 2009).

[247] *BBC Chinese*, "China's Influence in Africa Continues," September 26, 2012, available at: http://www.bbc.co.uk/zhongwen/simp/chinese_news/2012/09/120926_china_africa.shtml.

training and support.[248] These efforts are fully in keeping with China's advance into Africa through economic and cultural means in order to increase its influence on the continent. Through 2011, China has been Africa's largest trading partner for the third consecutive year, with the trade volume between the two countries reaching a record $166.3 billion.[249]

As Arthur Waldron writes, there is a strategic purpose behind Chinese investments in Africa and, one could assume from his logic, elsewhere in the Third World as well. Waldron argues China: "is seeking a China-centric community, mostly of small and medium-sized states, that could serve as a counterweight to the emerged or emerging powers of the West, Japan, India, and so forth. The Chinese Communist government is most interested not in the welfare of the Chinese people, but in their own regime survival. The gradual disappearance of communism worries them deeply."[250]

Waldron continues with his assessment of China's interests in Africa: "China's new interest in Africa would be part of an increasingly visible pattern of seeking to create her own set of economic and political friends. Chinese states have historically been uncomfortable with any but

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[248] *BBC Chinese*, "China's Influence in Africa Continues," September 26, 2012.
[249] *BBC Chinese*, "China's Influence in Africa Continues," September 26, 2012.
[250] Arthur Waldron, "Foreword," in Waldron, ed., *China in Africa* (Washington, D.C.: Jamestown Foundation, 2008), p. 7.

hierarchical foreign relations that they dominate."[251] When we review China's situation in the world, "today's China is not particularly happy with her truly advanced Asian neighbors, such as Japan, Korea, and Taiwan, nor is she naturally congenial with India or Southeast Asia, which are less developed, or for that matter with Europe or the United States."[252] However, "in every case, purely economic considerations would suggest ever-closer cooperation, but as a single-party dictatorship in a world where Pakistan and South Africa and Russia hold elections, China worries about political contagion—not to mention the numerous territorial disputes that poison, for example, relations with India. Taking such considerations into mind, two areas of the world look attractive. One is Latin America, the other is Africa."[253]

Of these, Africa is far more strategically important for China, "in the case of Africa, Beijing has the possibility of winning almost fifty allies many rich in resources, while facing little danger of liberal contagion, and not least being at least seemingly in command of the relationship by virtue of superior education, resources, and technology. All of these states vote in the United

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[251] Waldron, "Foreword," in Waldron, ed., *China in Africa*, p. 7. Also see Robert I. Rotberg, "China's Quest for Resources, Opportunities, and Influence in Africa," in Robert I. Rotberg, ed., *China into Africa: Trade, Aid, and Influence* (Washington, D.C.: Brookings Institution Press, 2008), pp. 1-20.
[252] Waldron, "Foreword," in Waldron, ed., *China in Africa*, p. 7.
[253] Waldron, "Foreword," in Waldron, ed., *China in Africa*, p. 7.

Nations. Many are deeply embedded and influential in international organizations. Furthermore, from Nigeria to Sudan to Tanzania, they offer what many seem to be strategic political and military positions, on the Atlantic, Red Sea, and the Indian Ocean."[254]

Of course, China's approach often meets resistance due to its own ham-fisted and too naked grab for the resources it needs at the cost of local communities. China is increasingly seen as a "New Colonialist." Large numbers of Chinese are settling in Africa where, typically, they employ other Chinese and not Africans, purchase raw material for processing elsewhere, and sell to foreign markets in the classic fashion of European imperialists over a century ago.

The essence of the Chinese message to Third World states is a straightforward rhetorical query: Has the United States or the Europeans ever treated you as equals. In contrast, the Chinese say they come to your country, pay a fair price for your commodities, and build your infrastructure, with no strings attached. According to experts on China's penetration of Africa, Barry Sautman and Hairong Yan, a "positive image of China exists despite the prevalence among the Chinese of racist attitudes, which have been experienced both by Africans in China and Africans working alongside

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[254] Waldron, "Foreword," in Waldron, ed., *China in Africa*, p. 7.

Chinese residences in Africa" mostly due to the legacy of colonialism and Third World solidarity.[255]

The United States needs to counter the expansion of Chinese influence by tying in to the messages stated above, but adding the important point that there is no culture of anti-racism in China, and so there is little hope for change. Messages may be advanced along the following line: "The West confronted racism and developed a strong culture of anti-racism, China has not, nor is it likely to do so."

Second, the United States should argue that Chinese business practices are destructive. As discussed in Chapter Three, there often is considerable resentment toward the Chinese due to their ruthless business practices, which undercut and destroy African businesses. China is dumping products, or rather very forcefully and carefully marketing products, which ironically fits Lenin's thesis very well concerning the need of capitalists to exploit the Third World to meet the needs of overproduction.

The combination of the two messages, "China is racist with no culture of anti-racism, and their businesses practices are destructive for the locals," would be most effective in making appeals to the Third World.

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[255] Barry Sautman and Hairong Yan, "Friends and Interests: China's Distinctive Links with Africa," *African Studies Review*, Vol. 50, No. 3 (December 2007), pp. 75-114, 94.

Third, it is an obvious point, but it must be made: the Chinese are hypocrites when it comes to race and racial equality. For all of their rhetoric on Africa and their "African brothers," one almost blushes at the positive spin by the Chinese and their supporters in the press.[256] The cold facts of Chinese racism triumph paeans to "Third World solidarity."

Fourth, the message of the United States should be: We are better than the Chinese for the development of Africa. We will assist you with economic aid to offset what you receive from China. Culturally, socially, and politically, we are better, we are equal, recognize racial equality, and civil rights.

I. C. Permits a Positive, Inclusive Image of the United States to Be Advanced In Contrast to China

China's racism permits a positive image of the United States to be advanced in direct contrast to China's. The simple fact is, when compared with China, it is easy to convey the message to the rest of the world that the United States is open and inclusive, whereas China is not. This is because to do so is completely in accord with the principles of the United States and its history.

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[256] See Kaiyu Shao [邵开宇], "Go East: African Immigrants in China," *Consultancy Africa Intelligence*, 2 March 2012, available at: http://www.consultancyafrica.com/index.php?option=com_content&view=article&id=963:go-east-african-immigrants-in-china&catid=58:asia-dimension-discussion-papers&Itemid=264.

The United States seeks the best from around the world, and permits them to come to the country so that they may prosper, fulfill themselves as individuals, innovate, and, in turn, aid the economic growth and innovation in the United States.

Table One captures the important societal differences, both positive and negative, between the United States and China. Naturally, the Chinese are sure to counter with messages about racism in the United States, significant crime and unrest in the country, profound uncertainty about America's direction and future, negative images of Americans, including laziness, individualism, and lack of honor, and filial piety, numerous cases of economic hardship and business failures, and individual hard cases of immigrants, minorities, youths, or other Americans.

This is not a "glass half empty, glass half full problem," that is, both societies have positive and negative elements in them, and thus should be treated as equals. Such relativism is as misplaced today as it was during the Cold War. On the contrary, the society of the United States is profoundly better than China's, and, as such, Beijing's efforts to portray a negative image of the United States can be countered easily.

Table One
Major Societal Differences between the United States and China

U.S. Is an Open, Free Society	China Is a Closed, Authoritarian Society
Welcomes Immigration	Hostile to Immigration
Promotes Diversity	Promotes Uniculturalism
Is Transparent, and Able to Outreach to the Rest of the World	Does Not Outreach to the Rest of the World
Is Declining in Relative Power	Is Rising in Relative Power
Will Have Less Relative Wealth in the Future	Will Have Greater Relative Wealth in the Future
Relatively Divided	Relatively Homogenous
Anti-racist	Racist
Heterogeneous	Homogenous

This may be done first, by identifying a modern day Horatio Alger, "rags-to-riches," story—the poor immigrant rises to the security and comfort of the middle class, or to wealth, through hard work, determination, and honesty. The United States needs to emphasize success, which is readily done, for example, Steve Jobs was the son of a Syrian immigrant, and that remains as true in the present as it did in the past. This makes the United States more attractive for information technology and other skilled immigrants from around the world. The projected image of the United States in this regard matches the empirical reality.

Second, the society of the United States is inclusive, not exclusive. The rapid growth of immigrants to the United States, and the fact that more immigrants want to come to the United States is proof that the United States is a favorable destination for the world's population. This is in direct opposition to China, which receives only a small number of immigrants every year, and by far most of those are from the Chinese diaspora. In 1980, 20,000 foreigners stayed in China for more than six months. By the end of 2011, 600,000 did, principally living in Shanghai, and coming mostly from Taiwan and the diaspora, but a modest number from Vietnam (to Guangxi and Guangdong) and from North Korea (to Manchuria). That there are 600,000 in country of 1.34 billion, and that has a net migration loss of almost a half-a-million people according to the United States Census Bureau compares unfavorably to the United States, where there maybe anywhere from 33-38 million out of a population of 314 million.[257] These data demonstrate the reluctance of the Chinese to support immigration.

The Chinese are more than aware of the need to attract a variety of talents, investors, skilled workers, and what the Chinese call "seagulls," foreign businessmen who work with multinationals around the world. Yet,

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[257] United States Census Bureau, "Demographic Overview—Custom Region—China," data for 2012, available at http://www.census.gov/population/international/data/idb/region.php

the ability of a foreigner to receive the equivalent of permanent resident status or citizenship is a difficult challenge, even if the government wants the resident and almost unknown of if the government does not.

In this vein, the election and re-election of Barack Obama as the first black U.S. President and son of a foreigner sends a powerful symbolic message to the rest of the world. It is something that would be impossible in China.

Moreover, the United States opens its society, educational system, universities, military, and economy to immigrants as countless examples demonstrate. Additionally, it has in place Affirmative Action policies as a matter of state policy that benefits immigrants from racial minorities and or those who are women. In sum, the United States is one of the most transparent societies in the world for immigrants.

This message is low-hanging fruit for the United States, but needs to be advanced as appropriate in international fora and in diplomacy, Track Two diplomacy, and soft power media. Defense decision-makers should be cognizant that the ideational struggle between the United States and China is occurring right now. China has the upper hand in this because their advance is coordinated, and the United States' response seems to be ad hoc, uncoordinated, and thus dependent on local media or officials whose

attention is occasional and whose interests might not dovetail with those of the United States. Accordingly, countervailing messages along the themes suggested need to be advanced to push back against the Chinese, and provoke thought among the governing and intellectual elite of Third World countries about the true costs of supporting China.

I. D. Allows Political and Ideological Alliances of the U.S. to Be Strengthened

These messages will allow the political and ideological alliances of the United States to be strengthened. The political alliances particularly with Third World states are an obvious benefit. Equally important are the ideological alliances that the United States may augment. Intellectual circles in Europe, Canada, and the United States value multiracial and multicultural societies.

Journalists and media opinion-makers frequently share a multiracial and multicultural vision of their societies as well. Yet, thus far, they have not treated the problem of Chinese racism with the attention it deserves, in part for the reasons discussed in Chapter Three concerning academic and intellectual biases with respect to China and Western intellectual conceptions of racism.

To redress this imbalance, scholars may call attention to the problem of racism through studies and publication in specialized and popular journals

like *Foreign Affairs* and *The Atlantic* and in opinion pieces in major newspapers in the United States and Europe.

It will help with international organizations like Amnesty International and Human Rights Watch that have a strong interest in advancing human rights worldwide. Thus far, these organizations have not focused their attention on the issue of Chinese racism and its affect on immigrants and the behavior of Chinese corporations abroad, especially in Africa.[258]

It allows the United States to advance a positive U.S. image and position in the international arena, which will serve as an alternative and sharply contrasting image with China both now and in the future when the United States may be weaker than China. The connection to the global media is critical. Unfortunately, the constellation of power in global media will change with China's rise. The Chinese are creating their own media and news services. The major media forces today, *New York Times*, BBC, *Washington Post*, *Le Monde*, Fox and Sky News, CNN, and the other major American networks, will not always be dominant, and so their ability to

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[258] Indeed, a review of their reports reveals nothing on the racist behavior of the Chinese. To their credit, they do address many other human rights abuses by the Chinese, such as freedom of expression.

shape global opinion will be weakened. In contrast, China's media, and the ability of China to advance its message will increase.

As Chinese power grows, the traditional alliance structures will come under strain, and even long standing European allies will be tempted to bandwagon with China. This will be so for three reasons. First, Beijing holds material power advantages, such as European debt, which gives them some influence over policy. It is important not to overstate this influence; Europe is not yet captive, but likewise, some Chinese influence is undeniable. An important insight for United States defense decision-makers is that, indeed, material power heavily informs fundamental interests of states, such as, with whom it will ally. Yet, it is not solely determinative. People and states want to share interests and have a role in decision-making, to be treated as equals in the sense of having a role in institutional mechanisms and discussions. In general, the United States does this well; the Chinese do not.

Second, there is an ideological component. The attractiveness of the Beijing Consensus and socialism remains salient for a significant segment of the European population. For these Europeans, Beijing shows that socialism can work, and the train of reasoning for European socialists would be along these lines: "the revolutions of 1989 were an aberration due to the fact that the Soviets provided a false model of socialism. Socialism is redeemed

through China's example, successful modernization, rise to dominance, and ultimate victory over capitalism."

Third, the legacy of anti-Americanism still exists in Europe today. However, the culture of anti-racism is very strong throughout European societies. Touting the salience of racism and the importance of combating racism will make it more difficult for European governments to distance themselves from the United States in favor of an alliance with an ideologically incompatible and morally repugnant China.

The "China is a racist state" message of the United States will help win allies in global, popular culture, which is heavily influenced by ideals rooted in Western, left wing political thought, including strong currents of anti-racism. Popular cultural figures from film, music, television, and sports, will be far better able to call attention to China's racism for younger audiences worldwide than will official or semi-official Washington.

In sum, this is the "taking lemons and making lemonade" model. If it is the case that the United States is in decline, or will be in the near future, it must use every effort to assist itself. It is to the advantage of the United States to have the world consider the costs of Chinese dominance in order to grasp what will be lost. This is an exercise that most of the world has not

done, and so there is no appreciation of what will be lost; or how hypocritical, domineering, and imperialistic China will be.

I. E. At the Same Time, Chinese Racism Is a Cohesive Force for the Chinese

As with most matters in international politics, racism does serve to benefit the Chinese in four major ways. First, the Han Chinese possess a strong in-group identity with a polarized and tightly defined out-group. They know who belongs and who does not. This allows the Chinese government to expect sacrifice and as well as support from a considerable majority of the Chinese people.

Second, based in this identity, the government has the ability to focus with great willpower on the demands of the state. All governments make patriotic appeals, but the Chinese government is able to do so effectively because any entreaty is based on patriotism as well as nationalism. Both Chinese patriotism and nationalism may be made fiercely with explicitly ethnocentric and racist messages, appeals to ancestors and the long history and civilizational identity of the Chinese. When we reflect on the tools the Chinese government has to extract support and resources from the population, only one conclusion is possible, they are formidable.

Third, they have strong societal unity and purpose, which supports Chinese power. The Chinese do not have a culture that is self-critical or one

that ponders its fundamental faults. When Johnson considered his experiences in China and the Chinese inability to confront racism, he observed that Chinese culture "shies away from self and cultural criticism," and so he is not optimistic that a direct and frank consideration of racism should ever be expected of China.[259]

While that can be a great strength for China, it also gives the United States an advantage. The lack of any desire by the Chinese to self-reflect on the profound faults of their society means that there is no motivation to solve these faults. Accordingly, a powerful message may be that China will not change because it has no desire to do so. In essence, with China, "what you see is what you get." The country is a civilization, and that yields them great strength.

At the same time, there cannot be fundamental change. China is not an open society, transparent and porous for new ideas, that would challenge its core beliefs. For those states and peoples whom the Chinese see as inferior, dissatisfaction with core Chinese beliefs is certain to increase as Chinese power expands. Thus, the United States may tap into that "market of dissatisfaction" by calling attention to China's lack of flexibility, contempt for, and dismissal of the rest of the world.

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[259] Johnson, *Race and Racism in the Chinas*, p. 128.

Fourth, China's racism and ethnocentrism serves China's teleological worldview. History, in the Hegelian sense, is moving in China's direction, the future belongs to it, China's political beliefs, civilizational culture, and economic might triumphed over the West. This is Francis Fukuyama's "End of History" argument, just with China rather than the United States in the van of History. In essence, international politics is returning to "normal" with China at its center. This perception serves Chinese pride and provides them with a confidence reminiscent of that found in the West after the revolutions of 1989 and the death of the Soviet Union. That is a powerful elixir for a people, and one that is likely to fill the Chinese with even greater hubris and arrogance that offends and generates resentment throughout the world.

To advance its interests, the United States may make appeals to those actors in international politics that do not desire China to be at the center of the world either, first, because their interests directly conflict with China's, like India, Japan, Russia, and Vietnam; second, because they resent being excluded from consideration, treated equally, or with respect; or third, because they reject China's values and worldview.

Although it may be cold comfort for the United States at present, power in international politics is constantly being redistributed. China is rising today, but it may plateau or fall of its own devices, and this may occur

in short order, perhaps more quickly and dramatically than could be expected, or over a longer period of time. Additionally, its power may be equalized or surpassed by the rise of other states like India. Thus, China's rise is profound and one pregnant with many dangers and risks for the United States, but it also contains the certainty of decline. China may rule the world one day, but its day, too, will end. The United States and its friends need to say so.

Conclusions

This is a difficult time for the United States. Its primacy in international politics is challenged as it never has been before by mounting fiscal difficulties, which hinders its ability to meet its challenges, its numerous strategic challenges and military commitments around the world, and a rising peer competitor. This combination of strategic difficulties makes essential that the United States use every means available to maintain its position in international politics, including non-traditional means. Calling attention to Chinese racism is one such non-traditional strategy but, nonetheless, a powerful tool that provides the United States strategic leverage that will aid Washington in its effort to maintain its primacy.

This study explored the causes of Chinese racism, the strategic consequences of Chinese racism, and how the United States may use this situation to advance its interests in international politics.

Chapter One considered the origins of xenophobia, racism, and ethnocentrism. These traits are caused by human evolution, and, as this study has stressed, are not unique to the Chinese. However, they are made worse by Chinese history and culture.

Chapter Two presented the conception of race in Chinese history and culture. It found that Chinese religious-cultural and historical conceptions of race reinforce Chinese racism. In Chinese history and contemporary culture, the Chinese are seen to be unique and superior to the rest of the world. Other peoples and groups are seen to be inferior, with a sliding scale of inferiority. The major Chinese distinction is between degrees of barbarians, the "black devils," the savage inferiors beyond hope of interaction and the "white devils" or tame barbarians with whom the Chinese can interact. These beliefs are widespread in Chinese society, and have been for its history.

Lamentably, modern Chinese views on race are no better than they were in the past. Racism remains a key component of how the Chinese see the world, their central place in it, and the world's other, inferior inhabitants. The Chapter recognizes that China has been and remains a racist state, where racists and eugenicist beliefs inform the Chinese worldview.

Chapter Three evaluated the nine strategic consequences of Chinese racism. The first of these was that virulent racism and eugenics heavily inform Chinese perceptions of the world. United States decision-makers must recognize that China is a racist state, closer to Nazi Germany than values of the West. Most often, the Chinese do not even recognize their

racism as a problem. They believe that racism is a Western phenomenon and that Westerners are obsessed with race. This obsession is seen by the Chinese to be a strategic vulnerability of the West, whereas China is not affected by racism.

Second, Chinese racism informs their view of the United States. From the Chinese perspective, the United States used to be a strong society that the Chinese respected when it was unicultural, defined by the centrality of Anglo-Protestant culture at the core of American national identity aligned with the political ideology of liberalism, the rule of law, and free market capitalism. The Chinese see multiculturalism as a sickness that has overtaken the United States, and a component of U.S. decline.

Third, their racism informs their view of international politics in three ways. First, states are stable, and thus good for the Chinese, to the degree that they are unicultural. Second, Chinese ethnocentrism and racism drive their outlook to the rest of the world. Their expectation is of a tribute system where barbarians know that the Chinese are superior. Third, there is a strong, implicit, racialist view of international politics that is alien and anathema to Western policy-makers and analysts. The Chinese are comfortable using race to explain events and appealing to racist stereotypes

to advance their interests. Most insidious is the Chinese belief that Africans in particular need Chinese leadership.

Fourth, as they did during the Cold War, the Chinese will make appeals to Third World states based on "racial solidarity," that is, the need of non-white peoples to unite against Western imperialism and racism. Racial solidarity claims are easy for Chinese to accomplish since the Chinese can make racist claims. They can frame international politics in terms of a "racial balance of power," and cast appeals to the Third World along the line of: now is the time for non-whites to dominate international politics.

Fifth, Chinese racism retards their relations with the Third World. Chinese racism makes it difficult for China to advance a positive message in the Third World, especially Africa, but also in Latin America and the Middle East. The Chinese have a hierarchy of looking at other groups, darker skin is lower class, and race matters, the racial stereotypes of the Africans is that they are backward and dirty, and prone to crime, particularly violent crime. These beliefs surface regularly in China's relations with the Third World and these beliefs, coupled with clannish and ruthless Chinese business practices, generate enormous resentment in the Third World.

Sixth, the racism, xenophobia, and ethnocentrism of the Chinese, and the degree to which the Chinese permit their view of the United States to be

informed by racism, has the potential to hinder China in its competition with the United States because it contributes to their overconfidence. This overconfidence is a result of ethnocentrism and a sense of superiority rooted in racism. The Chinese commonly believe that they are cleverer than others, and so may shape events in an oblique manner or through *shi*, that is, the strategic manipulation of events. This conceit among the Chinese that they can manipulate others is supremely dangerous for stability in Asia. At the same time, it is a great advantage for the United States to play upon that overconfidence. To understand that an overconfident China will continue to make the mistakes it already has in the South China or East China Sea disputes. That is, making threats, issuing demands, heavy-handed shows of force, are generated by China's overconfidence.

Seventh, as regrettable as it is, Chinese racism helps to make the Chinese a formidable adversary. There are three critical consequences that result from this. The first is the sense of unity the Chinese possess. Second, it allows the Chinese to have a strong sense of identity, which in turn permits them to weather adversity, remain focused, and confidant that the rest of the nation is with them. Third, China is not plagued by self-doubt or guilt about its past.

Eight, the Chinese are never going to go through a civil rights movement like the United States. This is because, first, they have no freedom of the press, freedom to petition their government, freedom to assemble, all of which are necessary to support a civil rights movement. Second, there is no political drive or consciousness for equality in Chinese thought. Equality is associated with Maoism, and rejected in today's China, where inequality is widely accepted and celebrated. In addition, there is no notion of civil rights in Chinese political thought or, practically, in jurisprudence.

Ninth, China's treatment of Christians and ethnic minorities is poor. The government recognizes that religion is able to do many positive acts in a society, and they do see the need for people to have a religious grounding since a moral framework may be lost in the demands of a market economy. The debate now is an echo of the one they had in the 1800s, how do they preserve the essence of what is Chinese in an era dominated by Western ideas. Yet, the government is fearful of religion in the sense that uncontrolled religion may be a threat: a challenge to Beijing's authority. Not surprisingly, the treatment of ethnic minorities is equally bad.

Chapter Four considered the five major implications for United States decision-makers and asymmetries that may result from Chinese racism. These are summarized in Table Two.

Table Two
Summary of Asymmetries and Messages the U.S. Should Advance

Asymmetries/Strategies	Themes/Messages
1. *China is a racist state. Chinese racism provides evidence of how it will engage other international actors (i.e., China is the center of the universe, other societies are inferior).*	A. Reality Check on Chinese foreign policy. B. Fault with China's unwillingness to confront racism. C. Flaw in Chinese worldview. D. China is a racist superpower. It practices discredited eugenics policies. It does not equal the horrors of Nazi Germany, but it is far closer to Nazism than it is to the free and tolerant societies found in the West.
2. *Undermining China in the Third World.*	A. China has no culture of anti-racism B. Chinese business practices are destructive C. The hypocrisy of China's "Third World Solidarity" diplomacy. D. The U.S. has/will uphold principles of racial equality and civil rights.
3. *Promote a positive image of the U.S. to contrast Chinese racist diplomacy.*	A. The U.S. has a history of welcoming immigrants that can prosper by contributing to the growth of American society. B. The U.S. is a free and open society. C. American society does not tolerate racism and seeks to minimize it, while maximizing equality (i.e., affirmative action).
4. *Foster political and ideological alliances with states that oppose China's racist worldview, especially in the Third World.*	A. Bring in sympathetic popular culture figures to assist in drawing attention to Chinese racism and destructive policies in the developing world. B. Highlight the reality of imperialistic Chinese dominance in international politics.
5. *Benefits of Chinese racism (i.e., strong in-group identity, success of patriotic appeals, absent culture of self-reflection, ethnocentric policymaking).*	A. China has no desire to adjust/change racist worldview. B. China is a closed society. C. As China rises, its racist diplomacy will become more pronounced. D. The threat of China's values and worldview to the national interests of allies and smaller powers.

First, Chinese racism provides empirical evidence of how the Chinese will treat other international actors if the Chinese become dominant. One of the key insights into Chinese future behavior is its behavior in the past. Analysts do have insight into how China will behave in the future based on its

behavior when it was the hegemon of Asia, the known world as far as China was concerned. China sees itself as the center of the universe, all others are inferior, although there are varying degrees of inferiority. That is not an attractive model of winning allies and influence.

United States defense decision-makers might draw upon the following themes as asymmetrical messages to weaken China's support in the world. The first of these themes should be to advance a "reality check" to the global community: "how do Chinese words match Chinese deeds when it comes to treating people fairly and equally."

The second theme is to introduce fault. "Why do the Chinese refuse to change their racist views of the rest of the world?" Or more succinctly, "Why don't the Chinese like black people; or Indians; or South East Asians; or Latin Americans?" Attention needs to be called to its eugenics policies as well. "Why do the Chinese support eugenics generations after it was discredited in the West?" Likewise, explicit ties to the policies of Nazi Germany may be made since both Berlin and Beijing embraced eugenics, and Beijing still does.

A third theme is to suggest that there is something profoundly wrong with China's worldview: "Why are the Chinese unable to change their racist views?" Or that there is something deeply iniquitous with China itself, there is something immoral with the Chinese people, or with their elite: "Why is

China a racist state?" "Racism has been confronted and defeated worldwide, why is it celebrated in China?"

These themes allow the United States and other states to challenge China's projected image of an oppressed victim of racism with actual empirical reality: China is a racist superpower. It does not equal the horrors of Nazi Germany, but it is far closer to Nazism than it is to the free and tolerant societies found in the West.

The second major implication is that it provided the United States with a major asymmetry in the Third World. Chinese racism allows the United States to undermine China in the Third World.

The essence of the Chinese message to Third World states is a straightforward rhetorical query: Has the United States or the Europeans ever treated you as equals. In contrast, the Chinese say they come to your country, pay a fair price for your commodities, and build your infrastructure with no strings attached.

The United States needs to counter the expansion of Chinese influence by tying in to the messages stated above, but adding the important point that there is no culture of anti-racism in China, and so there is little hope for change. Messages may be advanced along the following line: "The West

confronted racism and developed a strong culture of anti-racism, China has not, nor is it likely to do so."

Second, the United States should argue that Chinese business practices are destructive. There often is considerable resentment toward the Chinese due to their ruthless business practices, which undercut and destroy African businesses. The combination of the two messages, "China is racist with no culture of anti-racism and their businesses practices are destructive for the locals," would be most effective in making appeals to the Third World.

Third, it is an obvious point, but it must be made: the Chinese are hypocrites when it comes to race and racial equality. For all of their rhetoric on Africa and their "African brothers," the cold facts of Chinese racism triumph paeans to "Third World solidarity."

Fourth, the message of the United States should be: We are better than the Chinese for Africa. We will assist you with economic aid to offset what you receive from China. Culturally, socially, and politically, we are better, we are equal, recognize racial equality, and civil rights.

The third major implication is that it permits a positive image of the United States to be advanced in contrast to China. The direct fact is, when compared with China, it is easy to convey the message to the rest of the world that the United States is open and inclusive, whereas China is not. This

is because to do so is completely in accord with the principles of the United States and its history.

The messages should be, first, the United States seeks the best from around the world, and will permit them to come to the country so that they may prosper, fulfill themselves as individuals, innovate, and, in turn, aid the economic growth and innovation of the United States. Second, the United States opens its society, educational system, universities, military, and economy to immigrants as countless examples demonstrate. Third, it has in place Affirmative Action policies as a matter of state policy that benefits immigrants from racial minorities and/or those who are women. In sum, the United States is one of the most transparent societies in the world for immigrants.

The fourth significant implication for the United States is that calling attention to Chinese racism allows the political and ideological alliances of the United States to be strengthened. The political alliances particularly with Third World states are an obvious benefit. Equally important are the ideological alliances that the United States may augment. Intellectual circles in Europe, Canada, and the United States value multiracial and multicultural societies.

Journalists and media opinion-makers frequently share a multiracial and multicultural vision of their societies as well. Yet, thus far, they have not treated the problem of Chinese racism with the attention it deserves. The "China is a racist state" message of the United States will help win allies in global, popular culture, which is heavily influenced by ideals rooted in Western, left wing political thought, including strong currents of anti-racism. Popular cultural figures from film, music, television, and sports, will be far better able to call attention to China's racism for younger audiences worldwide than will official or semi-official Washington.

It is to the advantage of the United States to have the world consider the costs of Chinese dominance in order to grasp what will be lost. This is an exercise that most of the world has not done, and so there is no appreciation of what will be lost; or how hypocritical, domineering, and imperialistic China will be.

Fifth, and finally, United States defense decision-makers must recognize that racism is a cohesive force for the Chinese. Racism does benefit the Chinese in four major ways. First, the Han Chinese possess a strong in-group identity with a polarized and tightly defined out group. This allows the Chinese government to expect sacrifice and as well as support from the considerable majority of the Chinese people.

Second, based in this identity, the government has the ability to focus with great willpower on the demands of the state. All governments make patriotic appeals, but the Chinese government is able to do so effectively because any entreaty is based on patriotism as well as nationalism. When we reflect on the tools the Chinese government has to extract support and resources from the population, only one conclusion is possible, they are formidable.

Third, they have strong societal unity and purpose, which supports Chinese power. The Chinese do not have a culture that is self-critical or one that ponders its fundamental faults.

Fourth, China's racism and ethnocentrism serves China's teleological worldview. History, in the Hegelian sense, is moving in China's direction, the future belongs to it, China's political beliefs, civilizational culture, and economic might triumphed over the West.

While racism can be a great strength for China, it also gives the United States an advantage. The lack of any desire by the Chinese to self-reflect on the profound faults of their society means that there is no motivation to solve these faults. Accordingly, a powerful message may be that China will not change because it has no desire to do so. In essence, with China, "what you

see is what you get." The country is a civilization, and that yields them great strength.

At the same time, there cannot be fundamental change. China is not an open society, transparent and porous for new ideas, that would challenge its core beliefs. For those states and peoples whom the Chinese see as inferior, dissatisfaction with core Chinese beliefs is certain to increase as Chinese power expands. Thus, the United States may tap into that "market of dissatisfaction" by calling attention to China's lack of flexibility, contempt for, and dismissal of the rest of the world.

Lastly, the United States may make appeals to those actors in international politics who do not desire China to be at the center of the world either, first, because their interests directly conflict with China's, like India, Japan, Russia, and Vietnam; second, because they resent being excluded from consideration, treated equally, or with respect; or third, because they reject China's values and worldview.

These insights provide a significant opening for the United States to advance its interests at China's expense. Washington may explain why its open policies and specific policies to combat racism make it a more attractive ally.

The United States can take advantage of Chinese racism in its foreign and defense policies, as well as in as in the global public sphere. Again, most of the world's opinion makers in the media and popular culture are sensitive to the dangers of racism, and so are more favorably inclined to Washington's policies than Beijing's.

Chinese racism also provides the world with important insights into how the world will look when China is dominant. These insights should add further support for Washington. In sum, Chinese racism offers the United States specific asymmetries it can exploit, for example, to hinder China's appeal in the Third World.

The conclusion is that endemic Chinese racism offers the United States a major asymmetry it may exploit with major countries, regions like Africa, as well as with important opinion makers in international politics. The United States is on the right side in the struggle against racism and China is not. The United States government, allies, and individual actors like academics should call attention to this to aid Washington's position in international politics.

The United States must be confident enough and have the willpower to advance these messages against China. While it is beyond the scope of this study, the West does indeed have significant influence in China and should

use its power to advance its interests. It is to be expected that the Chinese will always protest, and do so rather vociferously, any statement of fact concerning racism or criticism as interference in Chinese internal affairs.

More significantly, it deserves to be stated plainly that the fate of the country depends to a large extent on decisions made in the West. Sorman stresses this vulnerability when he notes: "Should foreign investment and imports begin to peter out, the Chinese economy would come to a grinding halt. Sixty percent of Chinese exports are carried out by foreign companies, and the Communist Party's survival depends on its ability to maintain a favored relationship with Western decision makers. It is precisely for this reason that the Propaganda Department assiduously woos Western public opinion and tries to buy it off."[260]

As Chinese dissident Wei Jingsheng [魏京生] argues, the fear of losing the vast Chinese market is making people cowards. However, this myopia will not last long, "Sooner or later, the Americans will realize that the Communist Party has been lying to them about everything be it intellectual property, human rights, Taiwan, or its support to North Korea."[261] The critical question implied by Sorman should be stated in clear terms: "Is a conflict between the United States and China inevitable?" For Wei, "a

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[260] Sorman, *The Empire of Lies*, p. xxvi.
[261] Quoted in Sorman, *The Empire of Lies*, p. 6.

showdown is inevitable with the Communist Party but not with the Chinese people. He reminds us that so far, twenty-six dynasties have ruled over China. Now the time for democracy has come."[262]

Indeed, in its confrontation with China, the United States needs to take stock of all of its advantages and resources. To advance its interests, the United States may make appeals to those actors in international politics who do not desire China to be at the center of the world either. A large part of this confrontation will be in the realm of ideas, diplomacy, popular culture, and public opinion of United States' allies, the Third World, and in China itself.

The great advantage of the United States is that it is a better society than China, and is a better manager of the interests of allies and the global community than is China. The United States has done far more for the world through its creation of the global economic order, its many humanitarian actions, and the stability that results from its military alliances and power. It is an open, transparent society that welcomes foreigners and permits them to enjoy full civil rights and the prodigious benefits of living in the United States.

But facts will not speak for themselves. Indeed, as this study has demonstrated, there is a great reluctance by many actors to point out the racism of the Chinese. If it is going to be done, it must be done through a

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[262] Sorman, *The Empire of Lies*, pp. 6-7.

concerted effort. This study is the first contribution to that goal. At the same time, the United States needs to proclaim its considerable strengths to the rest of world. It needs to tap into the resentment that China generates inexorably through its rapid growth and the inevitable strategic hubris and mistakes that accompany such a spectacular rise.

Additional research should be conducted, first, to explore how the messages may be tailored, expanded, or modified to reach all global audiences; second, to illuminate other societal or further weaknesses China possesses that may serve as asymmetries for the United States in its global competition with China; and third, to understand what other strengths the United States possess, whether these are societal or other, non-traditional tools that may be used in the confrontation.

Finally, and most importantly, it must be stated directed: China is a racist state, and is very proud of this fact. This must be recognized to compel all international actors—states, nongovernment organizations, human rights groups, academics, media, popular culture celebrities, and individuals—to think through the consequences of the rise of China for what they value. The commercial lure of China is strong, and the Sino-American competition has many components to be sure. But one, thus far, neglected aspect needs to be highlighted. The Sino-American confrontation has a moral component too. It

needs to be thought of as a clash between right and wrong, racism and anti-racism, a racist state and an anti-racist one. Just as in the Cold War, the United States is on the right side.

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MILITARY AND SECURITY DEVELOPMENTS INVOLVING THE PEOPLE'S REPUBLIC OF CHINA 2020

ANNUAL REPORT TO CONGRESS

OFFICE OF THE SECRETARY OF DEFENSE

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Military and Security Developments Involving the People's Republic of China 2020

Annual Report to Congress

A Report to Congress Pursuant to the National Defense Authorization Act for Fiscal Year 2000, as Amended

Section 1260, "Modifications to Annual Report on Military and Security Developments Involving the People's Republic of China," of the National Defense Authorization Act for Fiscal Year 2020, Public Law 116-92, which amends the National Defense Authorization Act for Fiscal Year 2000, Section 1202, Public Law 106-65, provides that the Secretary of Defense shall submit a report "in both classified and unclassified form, on military and security developments involving the People's Republic of China. The report shall address the current and probable future course of military-technological development of the People's Liberation Army and the tenets and probable development of Chinese security strategy and military strategy, and of the military organizations and operational concepts supporting such development over the next 20 years. The report shall also address United States-China engagement and cooperation on security matters during the period covered by the report, including through United States-China military-to-military contacts, and the United States strategy for such engagement and cooperation in the future."

PREFACE:

A 20 YEAR RETROSPECTIVE ON CHINA'S STRATEGY AND ARMED FORCES

For 20 years, the Department of Defense (DoD) has provided Congress with an annual report on military and security developments involving the People's Republic of China (PRC). These reports have assessed the contours of China's national strategy, its approach to security and military affairs, and potential changes in the PRC's armed forces over the next 20 years, among other matters. 2020 marks an important year for the People's Liberation Army (PLA) as it works to achieve important modernization milestones ahead of the Chinese Communist Party's (CCP) broader goal to transform China into a "moderately prosperous society" by the CCP's centenary in 2021. As the United States continues to respond to the growing strategic challenges posed by the PRC, 2020 offers a unique opportunity to assess both the continuity and changes that have taken place in the PRC's strategy and armed forces over the past two decades.

DoD's first annual report to Congress in 2000 assessed the PRC's armed forces at that time to be a sizable but mostly archaic military that was poorly suited to the CCP's long-term ambitions. The report recognized the CCP's objective was for the PRC to become a "strong, modernized, unified, and wealthy nation." Despite these great power aspirations, the PLA lacked the capabilities, organization, and readiness for modern warfare. Yet the CCP understood these deficiencies and set long-term goals to strengthen and transform its armed forces in a manner commensurate with its aspirations to strengthen and transform China.

DoD's 2000 report assessed that the PLA was slowly and unevenly adapting to the trends in modern warfare. The PLA's force structure and capabilities focused largely on waging large-scale land warfare along China's borders. The PLA's ground, air, and naval forces were sizable but mostly obsolete. Its conventional missiles were generally of short range and modest accuracy. The PLA's emergent cyber capabilities were rudimentary; its use of information technology was well behind the curve; and its nominal space capabilities were based on outdated technologies for the day. Further, China's defense industry struggled to produce high-quality systems. Even if the PRC could produce or acquire modern weapons, the PLA lacked the joint organizations and training needed to field them effectively. The report assessed that the PLA's organizational obstacles were severe enough that if left unaddressed they would "inhibit the PLA's maturation into a world-class military force."

Two decades later, the PLA's objective is to become a "world-class" military by the end of 2049—a goal first announced by General Secretary Xi Jinping in 2017. Although the CCP has not defined what a "world-class" military means, within the context of the PRC's national strategy it is likely that Beijing will seek to develop a military by mid-century that is equal to—or in some cases superior to—the U.S. military, or that of any other great power that the PRC views as a threat. As this year's report details, the PRC has marshalled the resources, technology, and political will over the past two decades to strengthen and modernize the PLA in nearly every respect. Indeed, as this report shows, China is already ahead of the United States in certain areas such as:

- Shipbuilding: The PRC has the largest navy in the world, with an overall battle force of approximately 350 ships and submarines including over 130 major surface combatants. In comparison, the U.S. Navy's battle force is approximately 293 ships as of early 2020.
- Land-based conventional ballistic and cruise missiles: The PRC has more than 1,250 ground-launched ballistic missiles (GLBMs) and ground-launched cruise missiles (GLCMs) with ranges between 500 and 5,500 kilometers. The United States currently fields one type of conventional GLBM with a range of 70 to 300 kilometers and no GLCMs.
- Integrated air defense systems: The PRC has one of the world's largest forces of advanced long-range surface-to-air systems—including Russian-built S-400s, S-300s, and domestically produced systems—that constitute part of its robust and redundant integrated air defense system architecture.

More striking than the PLA's staggering amounts of new military hardware are the recent sweeping efforts taken by CCP leaders that include completely restructuring the PLA into a force better suited for joint operations, improving the PLA's overall combat readiness, encouraging the PLA to embrace new operational concepts, and expanding the PRC's overseas military footprint.

Despite the PLA's progress over the past 20 years, major gaps and shortcomings remain. The PRC's leaders are aware of these problems, and their strategy envisions the PLA undergoing almost 30 more years of modernization and reform. Of course, the CCP does not intend for the PLA to be merely a showpiece of China's modernity or to keep it focused solely on regional threats. As this report shows, the CCP desires the PLA to become a practical instrument of its statecraft with an active role in advancing the PRC's foreign policy, particularly with respect to the PRC's increasingly global interests and its aims to revise aspects of the international order.

Given the continuity in the PRC's strategic objectives, the past 20 years offer a harbinger for the future course of the PRC's national strategy and military aspirations. Certainly, many factors will determine how this course unfolds. What is certain is that the CCP has a strategic end state that it is working towards, which if achieved and its accompanying military modernization left unaddressed, will have serious implications for U.S. national interests and the security of the international rules-based order.

Report scope: This report covers security and military developments involving the PRC until the end of 2019. Developments in 2020, including the implications of the COVID-19 pandemic, will be covered in DoD's 2021 report.

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EXECUTIVE SUMMARY

UNDERSTANDING CHINA'S STRATEGY

China's National Strategy

> The People's Republic of China's (PRC's) strategy aims to achieve "the great rejuvenation of the Chinese nation" by 2049. China's strategy can be characterized as a determined pursuit of political and social modernity that includes far-ranging efforts to expand China's national power, perfect its governance systems, and revise the international order.

> The Chinese Communist Party (CCP) frames this strategy as an effort to realize long-held nationalist aspirations to "return" China to a position of strength, prosperity, and leadership on the world stage.

> The CCP's leadership has long viewed China as embroiled in a major international strategic competition with other states, including, and in particular, the United States.

> In 2019, China intensified its efforts to advance its overall development including steadying its economic growth, strengthening its armed forces, and taking a more active role in global affairs.

Foreign Policy

> The PRC's foreign policy seeks to revise aspects of the international order on the Party's terms and in accordance with ideas and principles it views as essential to forging an external environment conducive to China's national rejuvenation.

> In 2019, the PRC recognized that its armed forces should take a more active role in advancing its foreign policy, highlighting the increasingly global character that Beijing ascribes to its military power.

Economic Policy

> The CCP prioritizes economic development as the "central task" and the force that drives China's modernization across all areas, including its armed forces.

> China's economic development supports its military modernization not only by providing the means for larger defense budgets, but through deliberate Party-led initiatives such as OBOR and Made in China 2025, as well as the systemic benefits of China's growing national industrial and technological base.

Military-Civil Fusion (MCF) Development Strategy

> The PRC pursues its MCF Development Strategy to "fuse" its economic and social development strategies with its security strategies to build an integrated national strategic system and capabilities in support of China's national rejuvenation goals.

- MCF encompasses six interrelated efforts: (1) fusing the China's defense industrial base and its civilian technology and industrial base; (2) integrating and leveraging science and technology innovations across military and civilian sectors; (3) cultivating talent and blending military and civilian expertise and knowledge; (4) building military requirements into civilian infrastructure and leveraging civilian construction for military purposes; (5) leveraging civilian service and logistics capabilities for military purposes; and, (6) expanding and deepening China's national defense mobilization system to include all relevant aspects of its society and economy for use in competition and war.

- While MCF has broader purposes than acquiring foreign technology, in practice, MCF means there is not a clear line between the PRC's civilian and military economies, raising due diligence costs for U.S. and global entities that do not desire to contribute to the PRC's military modernization.

Defense Policy & Military Strategy

- The PRC has stated its defense policy aims to safeguard its sovereignty, security, and development interests. China's military strategy remains based on the concept of "active defense."

- In 2019, the PLA remained primarily oriented towards longstanding regional threats while emphasizing a greater global role for itself in accordance with China's defense policy and military strategy.

- China's leaders stress the imperative of meeting key military transformation markers set in 2020 and 2035. These milestones seek to align the PLA's transformation with China's overall national modernization so that by the end of 2049, China will field a "world-class" military.

- The CCP has not defined what it means by its ambition to have a "world-class" military. Within the context of China's national strategy, however, it is likely that China will aim to develop a military by mid-century that is equal to—or in some cases superior to—the U.S. military, or that of any other great power that China views as a threat to its sovereignty, security, and development interests.

MISSIONS, TASKS, & MODERNIZATION OF CHINA'S ARMED FORCES IN THE "NEW ERA"

- The PRC's strategy includes advancing a comprehensive military modernization program that aims to "basically" complete military modernization by 2035 and transform the PLA into a "world-class" military by the end of 2049.

- The PLA's evolving capabilities and concepts continue to strengthen the PRC's ability to counter an intervention by an adversary in the Indo-Pacific region and project power globally.

> In 2019, the PLA continued to make progress implementing major structural reforms, fielding modern indigenous systems, building readiness, and strengthening its competency to conduct joint operations.

> China has already achieved parity with—or even exceeded—the United States in several military modernization areas, including:

- **Shipbuilding**: The PRC has the largest navy in the world, with an overall battle force of approximately 350 ships and submarines including over 130 major surface combatants. In comparison, the U.S. Navy's battle force is approximately 293 ships as of early 2020. China is the top ship-producing nation in the world by tonnage and is increasing its shipbuilding capacity and capability for all naval classes.

- **Land-based conventional ballistic and cruise missiles**: The PRC has developed its conventional missile forces unrestrained by any international agreements. The PRC has more than 1,250 ground-launched ballistic missiles (GLBMs) and ground-launched cruise missiles (GLCMs) with ranges between 500 and 5,500 kilometers. The United States currently fields one type of conventional GLBM with a range of 70 to 300 kilometers and no GLCMs.

- **Integrated air defense systems**: The PRC has one of the world's largest forces of advanced long-range surface-to-air systems—including Russian-built S-400s, S-300s, and domestically produced systems—that constitute part of its robust and redundant integrated air defense system (IADS) architecture.

Developments in the PLA's Modernization and Reform

> **The People's Liberation Army Army (PLAA)** is the largest standing ground force in the world. In 2019, the PLAA continued to transition into a modern, mobile, and lethal ground force by fielding upgraded combat systems and communications equipment and enhancing its ability to conduct and manage complex combined-arms and joint operations.

> **The People's Liberation Army Navy (PLAN)**—the largest navy in the world—is an increasingly modern and flexible force that has focused on replacing previous generations of platforms with limited capabilities in favor of larger, modern multi-role combatants. As of 2019, the PLAN is largely composed of modern multi-role platforms featuring advanced anti-ship, anti-air, and anti-submarine weapons and sensors.

- **Naval Shipbuilding and Modernization:** The PLAN remains engaged in a robust shipbuilding and modernization program that includes submarines, surface combatants, amphibious warfare ships, aircraft carriers, and auxiliary ships as well as developing and fielding advanced weapons, sensors, and command and control capabilities.

- **The People's Liberation Army Air Force (PLAAF)** and PLAN Aviation together constitute the largest aviation forces in the region and the third largest in the world, with over 2,500 total aircraft and approximately 2,000 combat aircraft. The PLAAF is rapidly catching up to Western air forces across a broad range of capabilities and competencies.

- **The People's Liberation Army Rocket Force (PLARF)** is responsible for the PRC's strategic land-based nuclear and conventional missile forces. The PLARF develops and fields a wide variety of conventional mobile ground-launched ballistic missiles and cruise missiles. The PRC is developing new intercontinental ballistic missiles (ICBMs) that will significantly improve its nuclear-capable missile forces. The number of warheads on the PRC's land-based ICBMs capable of threatening the United States is expected to grow to roughly 200 in the next five years.

  - The PRC is expanding its inventory of the multi-role DF-26, a mobile, ground-launched intermediate-range ballistic missile system capable of rapidly swapping conventional and nuclear warheads.
  - The PRC's robust ground-based conventional missile forces compliment the growing size and capabilities of its air- and sea-based precision strike capabilities.

- **The PLA Strategic Support Force (SSF)** is a theater command-level organization established to centralize the PLA's strategic space, cyber, electronic, and psychological warfare missions and capabilities. The SSF Network Systems Department is responsible for cyberwarfare, technical reconnaissance, electronic warfare, and psychological warfare. Its current major target is the United States.

  - **The PRC's Space Enterprise**. The PRC's space enterprise continues to mature rapidly. Beijing has devoted significant resources to growing all aspects of its space program, from military space applications to civil applications such as profit-generating launches, scientific endeavors, and space exploration.

  - The PLA has historically managed the PRC's space program. The SSF Space Systems Department is responsible for nearly all PLA space operations.

  - In 2019, the PRC described space as a "critical domain in international strategic competition" and stated the security of space provided strategic assurance to the country's national and social development.

- **Military Readiness**: In recent years, CCP leaders have directed the PLA to improve its combat readiness. This guidance is increasingly evident in the intensity of the PLA's training and the complexity and scale of its exercises.

Capabilities for Counter Intervention and Power Projection

- The PLA is developing capabilities to provide options for the PRC to dissuade, deter, or, if ordered, defeat third-party intervention during a large-scale, theater campaign such as a Taiwan contingency.
- The PLA's anti-access/area-denial (A2/AD) capabilities are currently the most robust within the First Island Chain, although the PRC aims to strengthen its capabilities to reach farther into the Pacific Ocean.
- The PRC also continues to increase its military capabilities to achieve regional and global security objectives beyond a Taiwan contingency.
- The PLA is developing the capabilities and operational concepts to conduct offensive operations within the Second Island Chain, in the Pacific and Indian Oceans, and in some cases, globally. In addition to strike, air and missile defense, anti-surface and anti-submarine capabilities improvements, China is focusing on information, cyber, and space and counterspace operations.

Nuclear Deterrence

- China's strategic ambitions, evolving view of the security landscape, and concerns over survivability are driving significant changes to the size, capabilities, and readiness of its nuclear forces.
- China's nuclear forces will significantly evolve over the next decade as it modernizes, diversifies, and increases the number of its land-, sea-, and air-based nuclear delivery platforms.
- Over the next decade, China's nuclear warhead stockpile—currently estimated to be in the low-200s—is projected to at least double in size as China expands and modernizes its nuclear forces.
- China is pursuing a "nuclear triad" with the development of a nuclear capable air-launched ballistic missile (ALBM) and improving its ground and sea-based nuclear capabilities.
- New developments in 2019 further suggest that China intends to increase the peacetime readiness of its nuclear forces by moving to a launch-on-warning (LOW) posture with an expanded silo-based force.

THE PLA'S GROWING GLOBAL PRESENCE

- CCP leaders believe that the PRC's global activities, including the PLA's growing global presence, are necessary to create a "favorable" international environment for China's national rejuvenation.
- The CCP has tasked the PLA to develop the capability to project power outside China's borders and immediate periphery to secure the PRC's growing overseas interests and advance its foreign policy goals.

China's Global Military Activities

> The PRC has increasingly recognized that its armed forces should take a more active role in advancing its foreign policy goals.

> As the PRC's overseas interests have grown over the past two decades, the Party's leaders have increasingly pushed the PLA to think about how it will operate beyond China's borders and its immediate periphery to advance and defend these interests.

> In 2019, the PLA continued to expand its participation in bilateral and multilateral military exercises, normalize its presence overseas, and build closer ties to foreign militaries.

PLA Overseas Basing and Access

> The PRC is seeking to establish a more robust overseas logistics and basing infrastructure to allow the PLA to project and sustain military power at greater distances.

> Beyond its current base in Djibouti, the PRC is very likely already considering and planning for additional overseas military logistics facilities to support naval, air, and ground forces. The PRC has likely considered locations for PLA military logistics facilities in Myanmar, Thailand, Singapore, Indonesia, Pakistan, Sri Lanka, United Arab Emirates, Kenya, Seychelles, Tanzania, Angola, and Tajikistan. The PRC and Cambodia have publicly denied having signed an agreement to provide the PLAN with access to Cambodia's Ream Naval Base.

> A global PLA military logistics network could interfere with U.S. military operations and provide flexibility to support offensive operations against the United States.

The PRC's Influence Operations

> The PRC conducts influence operations to achieve outcomes favorable to its strategic objectives by targeting cultural institutions, media organizations, business, academic, and policy communities in the United States, other countries, and international institutions.

> The CCP seeks to condition domestic, foreign, and multilateral political establishments and public opinion to accept Beijing's narratives.

> CCP leaders probably consider open democracies, including the United States, as more susceptible to influence operations than other types of governments.

RESOURCES AND TECHNOLOGY FOR FORCE MODERNIZATION

- The PRC's long-term goal is to create an entirely self-reliant defense-industrial sector—fused with a strong civilian industrial and technology sector—that can meet the PLA's needs for modern military capabilities.
- The PRC has mobilized vast resources in support of its defense modernization, including the implementation of its MCF Development Strategy, as well as espionage activities to acquire sensitive, dual-use, and military-grade equipment.
- In 2019, the PRC announced its annual military budget would increase by 6.2 percent, continuing more than 20 years of annual defense spending increases and sustaining its position as the second-largest military spender in the world. The PRC's published military budget omits several major categories of expenditures and its actual military-related spending is higher than what it states in its official budget.

Science and Technology Goals Supporting Military Modernization

- China seeks to become a leader in key technologies with military potential, such as AI, autonomous systems, advanced computing, quantum information sciences, biotechnology, and advanced materials and manufacturing.
- China has invested significant resources to fund research and subsidize companies involved in strategic S&T fields while pressing private firms, universities, and provincial governments to cooperate with the military in developing advanced technologies.
- China continues to undermine the integrity of the U.S. science and technology research enterprise through a variety of actions such as hidden diversions of research, resources, and intellectual property.

Foreign Technology Acquisition

- The PRC pursues many vectors to acquire foreign technologies, including both licit and illicit means. The PRC's efforts include a range of practices and methods to acquire sensitive and dual-use technologies and military-grade equipment to advance its military modernization goals.
- The PRC leverages foreign investments, commercial joint ventures, mergers and acquisitions, and state-sponsored industrial and technical espionage, and the manipulation of export controls for the illicit diversion of dual-use technologies to increase the level of technologies and expertise available to support military research, development, and acquisition.
- In 2019, the PRC's efforts included efforts to acquire dynamic random access memory, aviation, and anti-submarine warfare technologies.

U.S.-CHINA DEFENSE CONTACTS AND EXCHANGES IN 2019

- U.S. defense contacts and exchanges conducted in 2019 supported overall U.S. policy and strategy toward China, were focused on reducing risk and preventing misunderstanding in times of crisis, and were conducted in accordance with the statutory limitations of the National Defense Authorization Act for Fiscal Year 2000, as amended.

- Pursuit of a constructive results-oriented relationship with China is an important part of U.S. strategy in the Indo-Pacific region. The 2018 *National Defense Strategy* seeks areas of cooperation with China from positions of U.S. strength, with a long-term aim to set the military-to military relationship on a path of strategic transparency and non-aggression, and to encourage China to act in a manner consistent with the free and open international order.

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1

UNDERSTANDING CHINA'S STRATEGY

Understanding the tenets of China's national strategy is essential to understanding the future course of China's security and military strategy. This in turn offers insights on the current and future course of the People's Liberation Army's (PLA) reform and modernization in terms of its strength, technological advances, organization, and operational concepts.

CHINA'S NATIONAL STRATEGY

Key Takeaways

- China's strategy seeks to achieve "the great rejuvenation of the Chinese nation" by 2049. China's strategy can be characterized as a determined pursuit of political and social modernity that includes far-ranging efforts to expand China's national power, perfect its governance systems, and revise the international order.
- The Chinese Communist Party (CCP) frames this strategy as an effort to realize long-held nationalist aspirations to "return" China to a position of strength, prosperity, and leadership on the world stage.
- The CCP asserts its absolute leadership and governance systems are indispensable to China's national renewal into a "great modern socialist country."
- In 2019, China intensified its efforts to advance its overall development including steadying economic growth, strengthening its armed forces, and taking a more active role in global affairs.
- The CCP's leadership has long viewed China as embroiled in a major international strategic competition with other states, including, and in particular, the United States.

In 2019, the People's Republic of China (PRC) marked the 70th anniversary of its founding. On October 1, 2019, President Xi Jinping presided over the National Day ceremony in Beijing, standing atop the Gate of Heavenly Peace overlooking Tiananmen Square in front of a crowd that included the collected leaders of the CCP and foreign dignitaries while a massive assembly of forces and modern equipment from the PLA prepared to parade. In a brief speech, President Xi noted that it was 70 years to the day since Mao Zedong had stood in that very spot and proclaimed the founding of the PRC, ending what Xi described as the humiliations and misery that China had suffered in the previous century. President Xi then remarked, "The Chinese people managed to stand up on their feet and embark on a great journey of national rejuvenation...Today a socialist China is standing in the east of the world and there is no force that can shake the foundation of this great nation."

China's strategy seeks to realize "the great rejuvenation of the Chinese nation." This objective, which President Xi Jinping calls "the Chinese Dream," is a long-held national aspiration to "restore" China to a position of strength, prosperity, and leadership on the world stage. Throughout 2019, China continued to pursue this objective in line with the direction that the CCP Central Committee put forth in Xi's report to the 19th Party Congress in 2017, which set ambitious policy milestones and laid out initiatives for China to further its overall development, strengthen its armed forces, and take a more active role in global affairs.

China's leaders characterize their strategy to achieve political and social modernity as a grand national endeavor that is sweeping in scope and far-reaching in how it will transform China, and in turn, the world. China's strategy entails deliberate and determined efforts to amass, improve, and harness the internal and external elements of national power that will place China in a "leading position." China's leaders frequently refer to building China's "composite" national power in this context. China's strategy entails a long-term planning process to attain national rejuvenation that sets objectives, priorities, and milestones for the country's modernization across virtually every aspect of governance including economics, political affairs, the rule of law, public order, national security, diplomacy, and defense, as well as social affairs, education, science and technology, culture, the environment, and other matters. Although Party leaders have consistently pursued national rejuvenation as their goal, they have demonstrated a degree of strategic adaptability in execution to seize opportunities and manage threats to their strategy.

China pursues modernity and greater national power from the basis of defending and advancing its sovereignty, security, and development interests. Consequently, China's national ambitions and statecraft cannot be accurately characterized absent the CCP-dominated political system underpinned by the Party's theory of Socialism with Chinese Characteristics and the Party itself as the essential feature. The objective of this Party-led strategy is reflected in what the Party calls its "basic line," a single sentence in the CCP's Constitution that serves as the mission of the Party and the cornerstone for its policymaking. Last amended at the 19th Party Congress in 2017, it states:

> The basic line of the Communist Party of China in the primary stage of socialism is to lead all the people of China together in a self-reliant and pioneering effort, making economic development the central task, upholding the Four Cardinal Principles, and remaining committed to reform and opening up, so as to see China becomes a great modern socialist country that is prosperous, strong, democratic, culturally advanced, harmonious, and beautiful.

The basic line summarizes the Party's mission during what it considers China's current "primary" stage of socialist development.

External Ambitions. Among the external elements of China's national strategy are its ambitions to create a "favorable" international environment, according to Yang Jiechi, a member of the Politburo and a leading Party official on foreign policy. The Party seeks international conditions for the PRC that are conducive to its continued development and compatible with its aspirations for China's rejuvenation as a "great modern socialist country." As Party leaders view a divided China as a weak China, they argue that "full reunification"—unification with Taiwan on Beijing's terms and completing Hong Kong and Macau's integration by the end of 2049—is a fundamental condition of national rejuvenation. CCP leaders view it as imperative that a renewed China field a "world-class" military led by the Party that can "fight and win" and "resolutely safeguard" the country's sovereignty, security, and development interests. Similarly, the CCP seeks for all countries to adopt a new approach to interstate relations that reflect the Party's principles and its concept of a "community with a shared future for mankind."

The CCP's leaders claim that their strategy to achieve national rejuvenation requires the PRC to "lead the reform of the global governance system" as they view the current system as antithetical to their socialist system and an intolerable constraint on their strategic ends. The Party views aspects of the status quo order as incompatible with the sovereignty, security, and development interests of a strong and rejuvenated China. To the CCP, revisions are necessary to accommodate China's development and should reflect the CCP's foreign policy principles, which occupy "the commanding height of human morality," according to the PRC's Foreign Ministry.

Key Objectives and Milestones. For decades, China's leaders have framed the pursuit of modernity and power as advancing China along a specific trajectory with the PRC's centenary in 2049 as the target when China seeks to achieve national rejuvenation and become a "great modern socialist country." From the Party's perspective of China as a developing nation that must transition into a "fully developed and highly advanced" socialist society, this trajectory involves the CCP shepherding China through different stages of gradual but systematic modernization and development. The CCP demarcates the stages of China's strategy with milestones, each with objectives and priorities determined by the Party's leaders and planning processes.

Reflecting on China's progress at the 19th Party Congress, General Secretary Xi declared that China had assumed "…a leading position in terms of economic and technological strength, defense capabilities, and composite national strength" and therefore "crossed the threshold into a New Era." Xi's declaration that China had entered a "New Era" was not a change in strategic objectives, but an important signal of confidence that China's progress was sufficient to tackle the next set of challenges in its development. For China's strategy in the "New Era," Xi laid out a broad plan to achieve national rejuvenation with a timeline linked to two symbolically important centenary milestones reached in

2021 (the CCP's centenary) and 2049 (the PRC's centenary). To bridge the lengthy gap between the two anniversaries, Xi added interim objectives for 2035 and laid out a broad two-stage modernization plan to reach 2049. Further demonstrating the Party's confidence in China's progress, Xi's objectives for 2035 moved up certain mid-century targets set by the Party going back to 1987.

By the time the CCP marks its centenary in 2021, China aims to complete building a "moderately prosperous society in all respects." Beyond 2021, China will use the "moderately prosperous society" as the basis for Xi's "two-stage" plan to achieve national rejuvenation by the PRC's centenary in 2049. In the first stage from 2021 to 2035, the Party aims for China to "basically" meet its initial thresholds for becoming a "great modern socialist country." In this stage, China will likely continue to prioritize economic development as "the central task," but rather than rapid economic growth, it will seek to address its uneven economic development and inequalities that the CCP recognized as the new "principal contradiction" in Chinese society in the "New Era." By 2035, China will also seek to increase its economic and technological strength to become a "global leader in innovation" and to "basically" complete its military modernization. China will also seek to strengthen its international "soft power" significantly and improve its domestic rule of law and governance systems.

In the second stage from 2035 to 2049, the Party will seek for China to complete its development and attain national rejuvenation, The Party defines national rejuvenation as a state in which China is "prosperous, strong, democratic, culturally advanced, and harmonious." A renewed China will have realized an international status that Xi describes as being a "global leader in terms of composite national strength and international influence." China will have also attained—among the Party's many goals—its objectives to field a "world-class" military and assume a leading position within an international order revised in line with China's overall foreign policy goal to establish a "community with a shared future for mankind."

Historic Continuity. Understanding the origins of China's national rejuvenation is crucial to understanding how China will likely shape and pursue this strategic objective. CCP leaders have consistently framed their efforts as seeking to "restore" China to a preeminent place in the world after enduring what the Party characterizes as China's "century of humiliation" beginning in the 19th century as the Qing Dynasty began to disintegrate and lasting until the founding of the PRC in 1949. Although the Party's exact articulation of this goal as "the great rejuvenation of the Chinese nation" first emerged in the late 1980s, the CCP has portrayed itself as a champion of the cause of rebuilding China since the 1920s. General Secretary Xi Jinping frequently points to the CCP's steadfastness to the cause of national rejuvenation and describes it as the Party's "original aspiration."

The Party's objectives and narratives of national rejuvenation speak to the deep impressions left on China's political identity over an era defined by the disintegration of China's polity, repeated violations of China's sovereignty by foreign powers, and the prolonged absence of physical and economic security for many Chinese people. For a civilization with a history stretching back thousands of years—much of it spent as one of the most powerful and advanced civilizations in the world—nationalist appeals to restore China to greatness are deeply rooted. The threads of national renewal can be traced to China's nationalist revolutionary leaders in the late Qing Dynasty and emerged as a common nationalist theme in the fractured politics of China's Republican era. This resonance is crucial to why the CCP portrays China's rejuvenation as a nationalist project that the Party "shoulders" for the country.

China's Strategy and the CCP. The Party's leaders frame Socialism with Chinese Characteristics and the CCP as indispensable to China overcoming its historical circumstances and attaining national rejuvenation. As General Secretary Xi Jinping stated in a speech to the CCP Central Committee in 2013, "Which ideological system a country implements depends on one crucial issue: can this ideology resolve the historical problems facing the country?" From the Party's perspective, its leadership and systems are uniquely able to restore China's strength, prosperity, and prestige—underscored with the implicit warning that any deviation from socialism's path would result in "chaos" and China falling behind on its "historic mission." As Xi stated, "…only socialism can save China—and only Socialism with Chinese Characteristics can develop China."

CCP leaders flatly reject the notion that the Party has abandoned its socialist ideology in recent decades with the introduction of market features into China's economy or drifted towards a non-ideological form of governance. The Party asserts that China remains on the path of "socialist modernization" but it seeks to advance the country gradually as a lesson painfully learned from the Mao-era catastrophes that sought rapid progress. Accordingly, the Party claims that to perform its decisive role in guiding China into a "great modern socialist country," it must ensure that the country advances in line with "the Four Cardinal Principles." First stated by Deng Xiaoping and later written into the CCP Constitution, these principles direct the Party "to keep to the path of socialism, to uphold the people's democratic dictatorship, to uphold the leadership of the CCP, and to uphold Marxism-Leninism and Mao Zedong Thought." The Four Cardinal Principles are the basis for political and governance reforms pursued by the Party and the outer boundaries of its efforts to "reform" and "open up" the country. As General Secretary Xi Jinping told Party cadres in 2014, "promoting the modernization of the national governance system and capacity is definitely not Westernization or capitalism." In addition to cultivating ideological discipline and fighting corruption within the Party, Xi has sought to advance China's strategy by strengthening the Party's primacy across China's governance systems and making the Party more effective at managing China's political, economic and social problems. Xi's

emphasis on building the CCP's institutional capacity and promoting internal unity—which he views as the means for the Party to perform its strategic role—has become a prominent feature of his tenure.

In 2019, the Party continued its efforts to "perfect" its governance systems domestically and internationally. Notably, at the Fourth Plenum of the 19th Party Congress in October 2019, convened amid trade negotiations with the United States and widespread protests in Hong Kong, the plenum's agenda was heavily focused on improving the Party's governance systems across all aspects of Chinese society. The Fourth Plenum's focus on Party building and greater ideological coherence seemed to underscore the leaderships' confidence in the Party's systems and the need for the Party to manage emerging challenges to China's strategy.

External Threats and Opportunities. The CCP's leadership has long viewed China as embroiled in a major international strategic competition with other states. Throughout the post-Mao reform era and particularly after the end of the Cold War, the Party's leaders recognized their socialist system was—and would remain over the long-term—an underlying source of tension with the West. Given the Party's ambitions to "restore" China's place in the world and their assessment of China's relative weakness vis-à-vis rival states, CCP leaders recognized China's growing strength could flare tensions with others without careful management. Deng Xiaoping's reputed approach to this dilemma, as attributed by other Party leaders, was for China to, "hide our capacities and bide our time, preserve ourselves, and develop gradually." Although Party leaders have consistently pursued national rejuvenation as their goal, they have demonstrated a degree of strategic adaptability in execution to seize opportunities and manage threats to their strategy.

Over time, the CCP has characterized China's view of strategic competition in terms of a rivalry among powerful nation states as well as a clash of opposing political and governance systems in which ideology is a defining characteristic. Speaking to the importance the Party places on perfecting its systems and competing with different systems, General Secretary Xi remarked that, "System advantages are the greatest advantages of a country, and the competition of different systems is the most fundamental competition between countries." Party leaders have described their view of competition as entailing aspects of cooperation and conflict and that the CCP would need to be adaptable, flexible, and, above all, patient. The Party's leaders have also offered a view of competition based on relative levels of economic, technological, and military power. Speaking to the CCP Central Committee in 2013, General Secretary Xi Jinping remarked that the Party needed to "appreciate" that "developed Western nations" would continue to possess "real, long-term advantages" over China in the economic, technological, and military domains. Xi argued that China would need to "diligently prepare for a long period of cooperation and of conflict between these two social systems in each of these domains." Lastly, Xi alluded to the core elements of national rejuvenation as China's approach

to this competition. Xi stated, "most importantly, we must concentrate our efforts on bettering our own affairs, continually broadening our comprehensive national power, improving the lives of our people, building a socialism that is superior to capitalism, and laying the foundation for a future where we will win the initiative and have the dominant position."

Since just prior to the dissolution of the Soviet Union, the PRC's leaders have consistently characterized China's security environment as undergoing intense changes and have viewed the international order as shifting towards a multipolar system as a consequence of China's development. The Party views a shift towards a multipolar system as vital for China to advance its strategy. China's leaders have eagerly embraced narratives of the West's relative decline and the inevitability of China's rise as largely consistent with their strategy and purported evidence of China's progress. Despite China benefiting enormously from the general peace and prosperity of the current international system, the Party views core aspects of the system as incompatible with its strategy and has offered a vision for a revised order premised on its "community with a shared future for mankind." For example, Beijing views U.S. security alliances and partnerships, especially those in the Indo-Pacific region, as destabilizing and irreconcilable with the PRC's sovereignty, security, and development interests. Regionally, the PRC's 2019 defense white paper claims that "Asia-Pacific" countries are "increasingly aware that they are members" of China's "community with a shared future for mankind" and that managing disputes through dialogue is its "preferred policy option." In practice, the PRC often favors "dialogue" as a power play and a means of using political, economic, or military coercion rather than force.

Beijing has also expressed concerns over growing global instability and a mounting sense of insecurity towards the United States. The PRC's 2019 defense white paper criticized the United States as the "principal instigator" of global instability and driver of "international strategic competition." The PRC's leadership sees U.S. policy towards China as a critical factor affecting China's national strategy and increasingly views the United States as more willing to confront Beijing on matters where U.S. and PRC interests are inimical. CCP leaders' perceptions of intensifying strategic competition driven by structural changes in the international system and an increasingly confrontational United States is consistent with the Party's long-held opinion—based on its view of competition between systems—that the United States seeks to prevent China's rejuvenation.

Despite the perceived threats and challenges to its interests, the PRC evaluated the strategic landscape in 2019 as sufficiently favorable to continue prioritizing its economic and political development in support of its strategy. This assessment underscores the contradictions in China's strategic approach. China desires to continue benefiting from the general peace and prosperity it has enjoyed for decades under the current international system in order to advance its overall development towards national

rejuvenation. Simultaneously, China's national ambitions and political and governance systems, coupled with growing means and opportunity, induce it to adopt more assertive and revisionist policies which threaten the peace and stability Beijing requires to meet its developmental goals.

As the Party's leaders seek to translate China's growing economic and military means into influence to advance their international aspirations, they must also carefully balance China's expanding interests with their priorities and resources. For example, the PRC's One Belt, One Road (OBOR) initiative expands China's overseas development and security interests. The CCP has signaled this will drive China towards expanding its overseas military footprint to protect those interests, which the CCP recognizes may provoke pushback from other states. CCP leaders also seem to have recognized that OBOR and other initiatives have sparked concerns about China's intentions, leading Beijing to use less inflammatory and more tailored rhetoric without altering the initiatives' fundamental goals. Similar tensions can be found in China's efforts to advance President Xi's foreign policy goals such as building a "community with a shared future for mankind;" pressing revisions to the international order; and establishing diplomatic relationships in accordance with what China calls "strategic partnerships." China seeks to secure and advance its overseas interests without entirely compromising the relationships and stability crucial to its continued development—China's highest priority at this stage of its strategy. This tension underscores the increasingly complex decisions and risks China's leaders must weigh in implementing their strategy.

China's National Security Concept and Management

In recent years, China has articulated its view of national security as a broad concept that spans the confluence of internal and external threats to the PRC's interests. Party leaders have identified national security as encompassing traditional and non-traditional domestic and foreign threats; the intersection of external influences on internal stability; and economic, cultural, societal, and environmental threats. Additionally, Beijing has taken steps to define a concept for national security; improve the CCP's ability to develop and coordinate national security policy across party, military, and state organs; and raise public awareness of national security concerns. These efforts seek to address longstanding concerns of China's leadership that the country's legacy system of stove-piped party-state organizations was ill equipped to meet the growing national security challenges that China faces.

National Security Concept: The CCP's "Overall National Security Concept" provides the framework for China's national security system, the mission of the Central National Security Commission (CNSC), and the basis of China's national security strategy. First proposed by General Secretary Xi Jinping in 2014, China's state media describes the "Overall National Security Concept" as "a powerful ideological weapon and action guide…." According to the Party, the premise of the concept is that "People's security is the purpose of national security, political security is the foundation of national security, and the supremacy of national interests is the criterion of national security." China's leaders consider people's security, political security, and national interests as mutually reinforcing aspects of national security. Party outlets describe people's security as the purpose because national security fundamentally must serve the Chinese people and the Chinese nation. Similarly, the Party's view of political security as the foundation of national security is described in terms of the maintenance and "ruling status" of the Party and the system of Socialism with Chinese Characteristics. This reflects the Party's certainty that its leadership and systems are indispensable to China's national rejuvenation. Party leaders assess the supremacy of national interests as the criterion or standard by which the Party expects its stewardship of China's national security will be judged: its ability to "resolutely safeguard" China's sovereignty, security, and development interests. China's concept also views development and security as mutually supporting aspects of national security in which "… development is the foundation and purpose of security, and security is the condition and guarantee of development."

Central National Security Commission (CNSC): To improve coordination on national security matters, the CCP created the Central National Security Commission (CNSC) in 2013. At the first CNSC meeting in April 2014, Xi called on the CNSC to establish, "a centralized, unified, highly-effective and authoritative national security leading system." The CNSC advises the Politburo,

oversees the coordination of national security issues across the government, and manages crises, according to academics. Embracing the Party's expansive concept of national security, the CNSC's purview covers internal and external national security matters. The CNSC's mission, codification in law, sprawling definition of national security, and powerful leadership suggest the CNSC may continue to grow as an important party-state organ by the end of Xi's second term in 2022.

Membership. China's top three leaders lead the CNSC: Xi who serves as the CNSC Chairman; Li Keqiang (Premier of the State Council); and probably Li Zhanshu (Chairman of the Standing Committee of the National People's Congress). According to reports, CNSC membership may include Politburo members, senior government leaders, and senior PLA leaders (including the two Vice Chairman of the CMC). The CNSC General Office is responsible for the commission's daily work and is run by senior CCP officials serving in dual-hatted roles in other positions. The current Director of the CNSC General Office is likely Ding Xuexiang, a longtime political aide to Xi according to media reports. Ding also serves as the Director of the General Office of the Central Committee and is a member of the Politburo. Since May 2018, Chen Wenqing has served as Deputy Director of the CNSC. Chen is also the Minister of State Security and a member of the Politburo.

National Security Strategy. By 2015, the CCP adopted China's first national security strategy outline following the CNSC's establishment. PRC media noted the strategy intends to unify efforts by various departments under the central leadership's guidance. Over the years, China's leaders and media have indicated various national security sub-strategies that cover a variety of issues including Political Security, Homeland Security, Military Security, Economic Security, Cultural Security, Societal Security, Technology Security, Network Security, Nuclear Safety, Ecological Security, Resource Security, and Biosecurity.

In an effort to raise public awareness of the Party's national security concepts and emphasize national security as a civic responsibility, the 2015 *National Security Law* designated April 15 of each year as National Security Education Day. Recent years have seen schools and universities in China mark the day through propaganda and education initiatives to raise public awareness of national security matters—notably foreign espionage. Indicating the reach and depth the Party desires its national security concepts to penetrate into the party-state, the 2015 *National Security Law* also made provincial, autonomous regions, and municipalities responsible for national security work within their administrative areas. This has led to the creation of national security committees in the Party's provincial-level organizations, each headed by the province's party chief. In recent years, provincial leaders have used National Security Education Day to highlight their public education efforts and the passage and implementation of local "national security" regulations such as the establishment of a rewards system for locals to encourage reporting of suspected espionage.

FOREIGN POLICY

Key Takeaways

- China's foreign policy seeks to build a "community with a shared future for mankind" that supports its strategy to realize "the great rejuvenation of the Chinese nation."
- China's revisionist approach to the international order derives from the objectives of its national strategy and the Party's political and governing systems.
- China's foreign policy promotes changes to the international system on Beijing's terms and according to ideas and principles it views as essential to its concept of a "community with a shared future for mankind."
- In 2019, the PRC recognized that its armed forces should take a more active role in advancing its foreign policy, highlighting the increasingly global character that Beijing ascribes to its military power.

In 2019, China's diplomatic activities continued to carve a more prominent role for Beijing in international affairs. China has embraced a new diplomatic framework that it terms "Major Power Diplomacy with Chinese Characteristics in the New Era," which is guided by the foreign policy direction determined by the CCP Central Committee and set forth in General Secretary Xi Jinping's report at the 19th Party Congress. This framework seeks to advance China's strategy of national rejuvenation by achieving the CCP's two centenary goals, improving the coordination of China's major domestic and international policies, reforming aspects of the international order, adhering to the CCP Central Committee's direction, and defending China's "core and major interests."

The CCP's theory of Socialism with Chinese Characteristics underpins the conduct of China's foreign affairs. Since President Xi Jinping assumed power at the 18th Party Congress in 2012, the CCP Central Committee has placed greater emphasis on China's foreign policy advancing "the cause of Socialism with Chinese Characteristics." Yang Jiechi, a top Party official for the PRC's foreign policy, has claimed that adherence to Socialism with Chinese Characteristics is the "root and soul for our foreign work" and contributes to China's "wisdom" and "programs to solve mankind's problems." Importantly, the CCP's theory shapes the particular contexts and caveats that China applies to its diplomatic concepts and principles. For instance, a tenet of China's approach is adhering to a "path of peaceful development based on mutual respect, cooperation and mutual benefit," —loaded terms that have distinct meanings to Beijing.

According to Party officials, the overall goal of the PRC's foreign policy is to build a "community with a shared future for mankind" that seeks to shift the international system towards an architecture based on the CCP's principles for how nations should interact. This goal is essential to how China's foreign policy supports its broader strategy to achieve national rejuvenation. From China's perspective, establishing this "community" is necessary to set the external security and economic conditions for China's national rejuvenation by "safeguarding world peace" and "promoting common development" according to the Party's principles. China recognizes it cannot achieve its goals in isolation and seeks "all countries" to adopt its diplomatic framework in order to "lead the way forward for mankind" and "open up a road to common development for China and the world." Lastly, PRC officials acknowledge that aspects of the international order are inconsistent with its objectives. China's diplomatic framework seeks to remedy this by promoting changes in a more "just and rational direction."

China's revisionist approach to the international order derives from the objectives of its national strategy and the Party's political and governing systems. The PRC does not frame its revisionist efforts as simply opportunistic challenges to the status quo or a significant deviation from the past. Rather, Beijing is acting upon its longstanding desire to redesign the architecture of the international order to support China's national rejuvenation, efforts that are married with growing resources and opportunities to do so. The PRC's foreign policy seeks to revise aspects of the international order on the Party's terms and in accordance with ideas and principles it views as essential to forging an external environment supportive of China's national rejuvenation. Yang Jiechi refers to global governance reforms as a "key issue of China's foreign work." China's foreign policy framework includes several efforts to promote and accelerate the transformation in the distribution of power, redefine longstanding principles of interstate relations, and reform global governance structures.

Within the context of "Major Power Diplomacy with Chinese Characteristics in the New Era," PRC officials have described how China differentiates its goals and relations according to the power relationships among four categories of actors: major powers, peripheral nations, developing nations, and international organizations. Among the major powers, China contends that a new framework for relations is necessary to construct a "stable and balanced development" between the powers—in essence a multipolar system. With peripheral nations, China seeks to strengthen these relationships to create a more favorable environment along its maritime and land borders in accordance with Beijing's "correct view of justice and interests." For developing countries, China emphasizes solidarity and cooperation as well as "actively" carrying out multilateral diplomatic work. This likely refers to the importance that China places on attaining support from developing countries within international

organizations such as the World Health Organization (WHO), the International Telecommunication Union (ITU), the Food and Agriculture Organization (FAO), and others.

Another tenet of "Major Power Diplomacy with Chinese Characteristics in the New Era" is Beijing's ambition to construct "new types" of bilateral and multilateral relationships among all states. China desires for its concepts of mutual respect, cooperation, and mutual benefit to provide the basis for these "new types" of relations. Yang Jiechi describes China's "new type" relationships as strategic partnerships that follow a new path of "common country-to-country interaction." Although distinct from alliance relationships, China's notion of strategic partnerships are indicative of a relationship that meets China's criteria and is worthy of a higher level of bilateral cooperation. To improve its diplomatic support further, China also seeks to create what it calls a "comprehensive global partnership network" of its strategic partners in order to form a global "circle of friends."

China also promotes reforms to the "global governance system" as part of its diplomatic framework in order to reflect the "profound evolution" of the international order. According to Yang Jiechi, "The global governance system is at an important stage of profound evolution, and global governance has increasingly become the frontier and key issue of China's foreign work." To "seize the opportunity" for reform, China actively participates in the construction of a new, "more balanced" global governance system based upon the Party's principles. For example, China promotes OBOR as an "important practical platform for the concept of the community with a shared future for mankind." OBOR also serves to strengthen China's strategic partnerships, enlarge its network of strategic partners, and advance reforms to the international order to support China's strategy.

In 2019, the PRC continued to expand its diplomatic footprint and increase its diplomatic activities in the pursuit of its foreign policy goals. Over the course of 2019, the PRC's formal diplomatic relations grew to 180 countries, according to Chinese state media, including several countries that bowed to the PRC's pressure and switched their official recognition from Taiwan. Moreover, Beijing contends that 100 countries have agreed to form a "strategic partnership" with China. In 2019, President Xi Jinping made seven foreign trips, visited 12 countries, and attended a number of important international conferences such as the G20 Summit. In June 2019 alone, President Xi traveled to Russia, Central Asia, North Korea, and Japan. President Xi also hosted a number of large-scale diplomatic events in China, including the second "Belt and Road" International Cooperation Summit Forum.

Throughout 2019, the PRC's leaders continued to push diplomatic efforts to strengthen China's economic connectivity across the Indo-Pacific region. China's efforts led to additional countries and international organizations agreeing to cooperate on OBOR. Similarly, the Asian Infrastructure Investment Bank, a multilateral development bank whose establishment President Xi spearheaded,

increased its membership to 100 countries. China made progress towards finalizing negotiations for the Regional Comprehensive Economic Partnership (RCEP), a significant trade agreement among 15 regional states. China will likely wield significant influence within the RCEP pact given China's economic weight and India's withdrawal from RCEP negotiations in late 2019.

In 2019, the PRC recognized that its armed forces should take a more active role in advancing its foreign policy, highlighting the increasingly global character that Beijing ascribes to its military power. The PRC's 2019 defense white paper notably described its armed forces as responding, "faithfully to the call for a community with a shared future for mankind." Moreover, the white paper described the "global significance" of China's national defense in the "New Era" and called on the PRC's armed forces to act "in the service" of China's foreign policy goals. The explicit alignment of China's defense policy and armed forces working on the behalf of China's foreign policy within the framework of "Major Power Diplomacy with Chinese Characteristics" marks an important distinction that China has typically avoided in the past outside of the context of Taiwan. This change is likely due to Beijing's perception that such an alignment is a strategic necessity in the "New Era" and its confidence in the PLA's expanding capacity to support the PRC's foreign policy.

Further highlighting the alignment of the PRC's defense and foreign policies, the 2019 defense white paper called for China's armed forces to, "actively participate in the reform of global security governance system." China has more prominently recognized the PLA's role in defending China's overseas interests, with the defense white paper noting that the PLA "promotes international security and military cooperation and refines relevant mechanisms for protecting China's overseas interests."

China's military diplomacy contributes to its foreign policy goals to develop strategic partnerships and revise aspects of the international system. The PLA seeks to build a "new model" of security partnerships based on the PRC's foreign policy principles, according to the 2019 defense white paper. China's "new configuration of foreign military relations" aims to deepen China's global partnership network through greater military cooperation. The PLA keeps close contact with the military leadership of neighboring countries through more than 40 reciprocal military visits at and above the service commander-level every year. China has set up defense and security consultations as well as working meeting mechanisms with 17 neighboring countries to keep exchange channels open. Similarly, China seeks to develop its military relationships in Europe and strengthen military exchanges with countries in Africa, Latin America, the Caribbean, and the South Pacific.

China's willingness to engage in military diplomacy with other countries can vary considerably based on its perception of a country's adherence to China's diplomatic framework. China has demonstrated a willingness to engage in higher levels of military cooperation with countries with which it has

established a strategic partnership in accordance with China's proprietary criteria. For example, China's "comprehensive strategic partnership of coordination" with Russia entails a relatively high degree of military cooperation. Sino-Russian military cooperation occurs in practical forms through exchanges of training, equipment, technology, high-level visits, and other coordination mechanisms. For other strategic partnership countries, China seeks to leverage those relationships to reinforce China's systemic preferences and maintain stability in Beijing's favor. For countries with whom China has not established strategic partnerships, such as the United States, China shapes its military cooperation along more minimalist principles of conflict avoidance that emphasize "non-conflict" and "mutual respect." From China's perspective, these curtailed relationships at least serve its foreign policy goal of ensuring stable relations with major powers.

In this regard, 2019 was a pivotal point for the PLA as it continued to intensify its support to China's foreign policy through active participation in the reform of the global security governance system, and to advance China's strategic partnerships.

China's Territorial Disputes in Context

The PRC's use of force in territorial disputes has varied widely since 1949. Some disputes led to war, as in border conflicts with India in 1962 and Vietnam in 1979. China's contested border with the Soviet Union during the 1960s raised the possibility of nuclear war. In recent cases involving land border disputes, China has sometimes been willing to compromise with and even offer concessions to its neighbors. Since 1998, China has settled 11 land-based territorial disputes with six of its neighbors. In recent years, China has employed a more coercive approach to deal with several disputes over maritime features and ownership of potentially rich offshore oil and gas deposits.

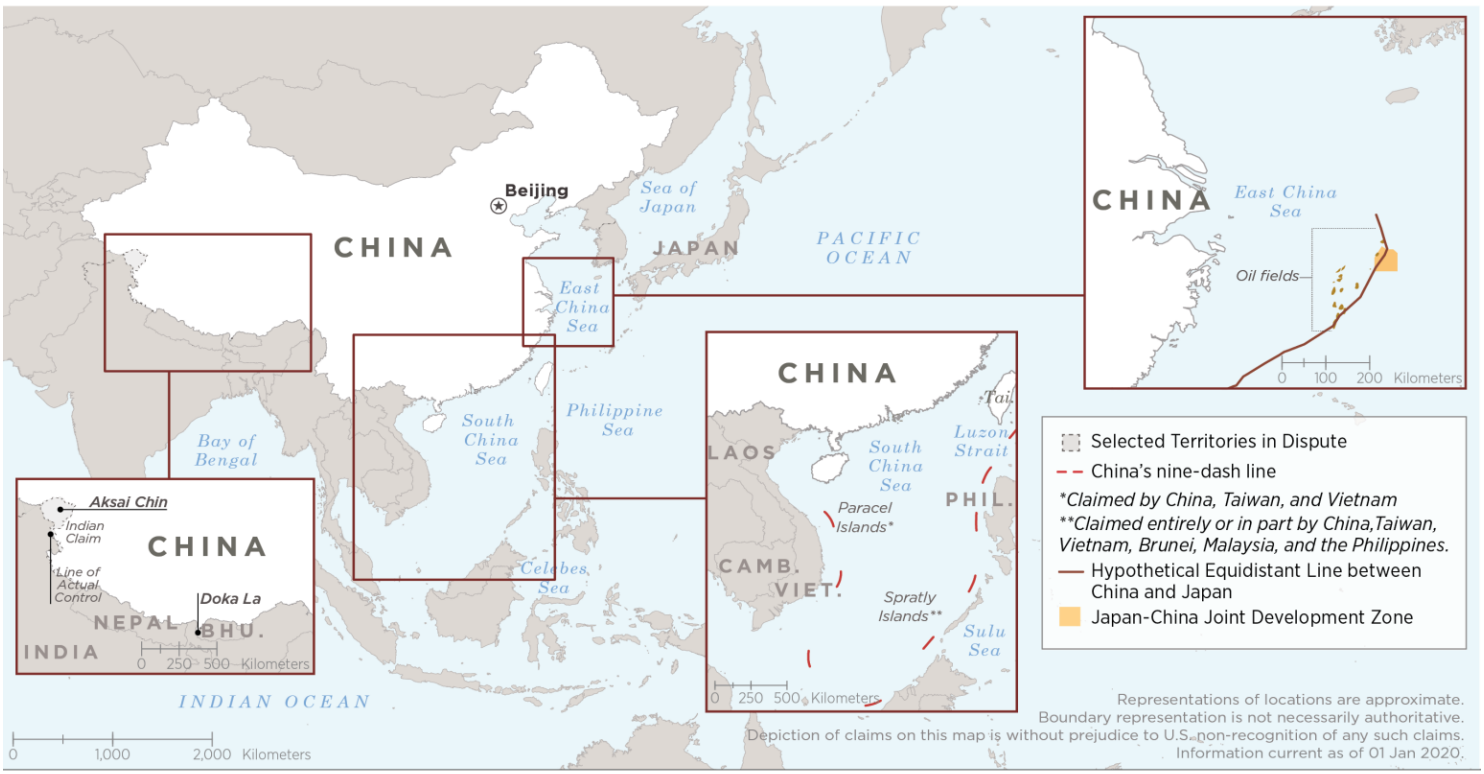
China and Japan have overlapping claims to both the continental shelves and the exclusive economic zones (EEZs) in the East China Sea. The East China Sea contains natural gas and oil, though hydrocarbon reserves are difficult to estimate. Japan maintains that an equidistant line from each country involved should separate the EEZs, while China claims an extended continental shelf beyond the equidistant line to the Okinawa Trench. Japan has called for resumed negotiations with China on the principled consensus reached in 2008 that both sides would respect an equidistant median line in the East China Sea for resource development while conducting joint development of oil and natural gas fields in a delineated area spanning the line near the northern end. Japan is concerned that China has conducted oil and gas drilling on the Chinese side of the median line of the East China Sea since 2013. China continues to contest Japan's administration of the nearby Senkaku Islands.

The South China Sea plays an important role in security considerations across East Asia because Northeast Asia relies heavily on the flow of oil and commerce through South China Sea shipping lanes, including more than 80 percent of the crude oil to Japan, South Korea, and Taiwan. China claims sovereignty over the Spratly and Paracel Island groups and other land features within its ambiguous self-proclaimed "nine-dash line" – claims disputed in whole or part by Brunei, the Philippines, Malaysia, and Vietnam. Taiwan, which occupies Itu Aba Island in the Spratly Islands, makes the same territorial assertions as China. In 2009, China protested extended continental shelf submissions in the South China Sea made by Malaysia and Vietnam in two note verbales to the United Nations (UN). In its notes, China stated that it has "indisputable sovereignty over the islands in the South China Sea and the adjacent waters, and enjoys sovereign rights and jurisdiction over the relevant waters as well as the seabed and subsoil thereof" and included its ambiguous "nine-dash line" map. In 2016, a tribunal established pursuant to the Law of the Sea Convention ruled that any PRC claim to "historic rights" in the South China Sea within the area depicted as the "nine-dash line" could not exceed its maritime rights or entitlements as specifically set out in the Law of the Sea Convention. China did not

participate in the arbitration, and PRC officials publicly voiced opposition to the ruling. By the terms of the Convention, the ruling is final and binding on China and the Philippines.

Tensions with India persist along the northeastern border near the Indian state of Arunachal Pradesh, which China asserts is part of Tibet and therefore part of China, and near the Aksai Chin region at the western end of the Tibetan Plateau. Chinese and Indian patrols regularly encounter one another along the disputed border, and both sides often accuse one another of border incursions. However, Chinese and Indian forces have regularly interacted since the 2017 Doklam standoff and generally kept disputes from escalating in 2019. After the 22nd round of India-China border talks held in September 2019, China and India agreed for the first time to coordinate patrolling at one disputed point along the Line of Actual Control in Arunachal Pradesh as a confidence-building measure to maintain peace at the border.

Selected Chinese Territorial Claims



ECONOMIC POLICY

Key Takeaways

- China's military modernization objectives are commensurate with and part of China's broader national development aspirations. China's economic, political, social, and security development efforts are mutually reinforcing and support China's strategy of national rejuvenation.
- The Party prioritizes economic development as the "central task" and the force that drives China's modernization across all areas, including its armed forces.
- China's economic development supports its military modernization not only by providing the means for larger defense budgets, but through deliberate Party-led initiatives such as OBOR and Made in China 2025, as well as the systemic benefits of China's growing national industrial and technological base.
- China's tools of economic statecraft include inducements such as infrastructure investments under OBOR; industrial and technology policies such as Made in China 2025 that seek foreign technology transfers in exchange for market access; protectionist policies and legal barriers for foreign firms to compete in China's domestic market; selective observance of trade commitments; and economic coercion against other states.

China's military modernization objectives are commensurate with and part of China's broader national development aspirations and work in coordination with China's economic policies and systems. China's leaders directly link the pace and scale of the PLA's modernization with the country's overall development. China's economic, political, social, and military development efforts are mutually reinforcing and support its strategy of national rejuvenation. The Party prioritizes China's economic development as the "central task" and frames its economic system as the means of advancing the nation's overall political and social modernity. In particular, China's economic statecraft focuses intensely on advancing what the Party calls the country's "productive forces" (e.g., industry, technology, infrastructure, and human capital) which it views as the means to achieve the country's political and social modernity—including building a "world-class" military. The party-state's relentless efforts to grow and mature China's national industrial and technological base has significant implications for China's military modernization, as well as for China's global economic partners.

Rather than a repudiation of the Party's fundamental ideals, CCP leaders have cast China's partial adoption of market features, part of its "reform and opening up" beginning in the late 1970s, and subsequent economic transformation, as evidence that their strategy to modernize China is succeeding.

Party leaders since Deng Xiaoping have consistently rationalized China's market-oriented economic reforms as a necessary regression from socialism needed to account properly for China's historical circumstances, which left it significantly underdeveloped. According to the Party, contemporary China remains at the beginning stage or the "primary stage of socialism" with a long process of socialist modernization ahead.

Basic Economic System. The Party conceives of China's economy as constituting the "basic economic system" in which public ownership is dominant and state, collective, and private forms of ownership develop side by side. The basic economic system is comprised of China's public ownership economy and the multi-ownership economy.

Economic Development Goals. Despite headwinds in China's economic performance in recent years, China has generally continued to pursue the economic policy objectives determined by the CCP Central Committee and set forth in Xi's report to the 19th Party Congress in 2017. According to Xi's report, China's economic goals are: (1) furthering supply-side structural reform; (2) making China a country of innovators; (3) pursuing a rural vitalization strategy; (4) implementing the coordinated regional development strategy; (5) accelerating efforts to improve the socialist market economy; and, (6) making new ground in pursuing opening up on all fronts. The CCP sets more specific development goals in its Five-Year Plans (FYPs). The PRC is currently executing the 13th FYP and the CCP is formulating the 14th FYP that will cover 2021-2025. The priorities and goals in the FYPs not only apply to the government and the public ownership economy, but also serve as implicit guidance from the Party to the multi-ownership economy.

Economic Conditions. In 2019, China's efforts to stem domestic credit growth and U.S.-China trade tensions exacerbated a slowdown in China's economy. In March 2019, China lowered its annual real gross domestic product growth target for 2019 to between 6 and 6.5 percent, from the previous year's target of "about" 6.5 percent. In the first three quarters of 2019, China posted an official gross domestic product growth rate of 6.2 percent marking the slowest rate of growth in nearly 30 years. China's economic growth has slowed down due to decreases in state-led infrastructure investment and urbanization, as well as China's decision since 2016 to increase oversight on the financial sector and risky lending.

Economic Policies and Practices. The PRC's introduction of some features of a market economy within the "basic economic system" without a full transition to a market economy has resulted in laws, regulations, and policies that generally disadvantage foreign firms vis- à-vis their Chinese counterparts in terms of tradable goods, services sectors, market access, and foreign direct investment. Examples of China's unfair economic policies and trade practices include its support to domestic industries at

the expense of foreign counterparts, commercial joint venture requirements, technology transfer requirements, subsidies to lower the cost of inputs, sustaining excess capacity in multiple industries, sector-specific limits on foreign direct investment, discriminatory cybersecurity and data transfer rules, insufficient intellectual property rights enforcement, inadequate transparency, and lack of market access—particularly in the information and communications technology (ICT), agriculture and service sectors.

In March 2018, an investigation by the Office of the U.S. Trade Representative (USTR) under Section 301 of the Trade Act of 1974 determined that the acts, policies, and practices of the PRC government related to technology transfer, intellectual property, and innovation are unreasonable or discriminatory and burden or restrict U.S. commerce, resulting in harm to the U.S. economy of at least $50 billion per year. Additionally, the USTR's annual Special 301 Report, which identifies trading partners that do not adequately or effectively protect and enforce intellectual property rights and the findings of its Review of Notorious Markets for Counterfeiting and Piracy, has repeatedly identified China as a country that has serious intellectual property rights deficiencies. These reports, for example, have repeatedly identified China as the world's leading source of counterfeit and pirated goods. Since 2006, USTR has continually placed China on its Priority Watch List, placement on which indicates particular problems with respect to intellectual property protection, enforcement, or market access for U.S. persons relying on intellectual property.

The USTR's 2020 Special 301 Report states: "China's placement on the Priority Watch List reflects U.S. concerns with China's system of pressuring and coercing technology transfer, and the continued need for fundamental structural changes to strengthen intellectual property protection and enforcement, [to include] trade secret theft, obstacles to protecting trademarks, online piracy and counterfeiting, the high-volume manufacturing and export of counterfeit goods, and impediments to pharmaceutical innovation."

Market access remains challenging for foreign firms, as China's restriction of inbound investment results in persistent underperformance in other countries' services exports, particularly in the banking, insurance, Internet-related, professional, and retail services sectors. Apart from the Section 301 investigation, the United States has placed sanctions on specific Chinese firms for violating U.S. sanctions against other states, stealing U.S. intellectual property, having ties to the PLA in dual-use sectors, and providing surveillance technology to PRC authorities in Xinjiang. In 2019, the Chinese telecommunications firm Huawei came under greater scrutiny due to concerns of its close links with the PRC government and its evasion of sanctions on Iran.

A large portion of China's economic output results from government and policy-directed investments rather than market-based forces. China pursues state-directed investment overseas and encourages mergers and acquisitions. Along with heavy investments in infrastructure and commodities to support its strategic firms, increase economic engagement, and improve economic security, China is investing in technologies that will be foundational for future innovations with both commercial and military applications.

China obtains foreign technology through foreign direct investment, overseas acquisitions, legal technology imports, the establishment of foreign research and development (R&D) centers, joint ventures, research and academic partnerships, talent recruitment, and industrial and cyber espionage and theft.

Recent legal proceedings highlight numerous cases of China's efforts to obtain technology and knowledge through theft of trade secrets and economic espionage. In November 2019, a U.S. Federal grand jury indicted a PRC national who had worked as an imaging scientist for Monsanto and its subsidiary, The Climate Corporation, on charges related to economic espionage and stealing trade secrets for China. Federal officials stopped him from boarding a flight on a one-way trip to China in 2017 with a proprietary algorithm according to the U.S. Department of Justice. In December 2018, the U.S. Department of Justice indicted two PRC nationals associated with a hacking group operating in China, known as Advanced Persistent Threat 10 (APT10), for conspiracy to commit computer intrusions, conspiracy to commit wire fraud, and aggravated identity theft. They worked for a Chinese company in association with the PRC Ministry of State Security (MSS) to conduct computer intrusions, resulting in the theft of hundreds of gigabytes of sensitive data involving aviation, space and satellite technology, manufacturing technology, pharmaceutical technology, oil and gas exploration and production technology, communications technology, computer processor technology, and maritime technology. In August 2017, a U.S. cybersecurity firm identified a separate hacking group in China, referred to as APT41, which has been operating since 2012. APT41 targeted industries associated with the PRC's economic priorities. The hackers repeatedly targeted tech groups developing machine learning, autonomous vehicles, medical imaging, semiconductors, processors, and enterprise cloud computing software.

The PRC's recent economic policies have promoted innovation focused on strengthening domestic industry, while placing additional restrictions on foreign firms. Recognizing that some of its initiatives such as "Made in China 2025" and OBOR have sparked concerns about China's intentions, China's leaders have adopted less inflammatory rhetoric when promoting these initiatives without altering their fundamental strategic goals.

- *Made in China 2025*: First announced by the PRC in May 2015, the "Made in China 2025" plan seeks to increase China's domestic innovation by setting higher targets for domestic manufacturing in strategic industries such as robotics, power equipment, and next-generation information technology by 2020 and 2025. This plan seeks to strengthen China's domestic enterprises through awarding subsidies and other incentives while increasing pressure on foreign firms to transfer technology in order to have market access in China. "Made in China 2025" came under criticism from advanced countries for unfairly favoring China's domestic enterprises at the expense of foreign participants in China's markets. Increasingly aware and sensitive to these concerns, by June 2018, China began avoiding references to "Made in China 2025" in major policy papers. The PRC government ordered its media outlets to downplay use of the term in June 2018. Key events that PRC leaders use to set strategic directives have also avoided references to "Made in China," including the 2019 Central Economic Work Conference and the NPC. Despite the adjustments in its narrative, China has largely continued implementing the policies behind "Made in China 2025."

- *One Belt, One Road (OBOR)*: Launched by the PRC in 2013, OBOR seeks to foster closer economic integration with countries along China's periphery and beyond thereby shaping these countries' interests to align with the PRC's, while promoting regional stability and dulling criticism over the PRC's approach to issues it views as sensitive. OBOR also helps China's state-owned enterprises (SOEs) find productive uses for their excess capacity in the cement, steel and construction sectors, as well as creating investment opportunities for China's large reserve of savings. Countries participating in OBOR could develop economic dependence on Chinese capital, which the PRC could leverage to pursue its geopolitical interests. The growth of China's global economic footprint also makes its interests increasingly vulnerable to domestic political transitions in participating countries, international and regional turmoil, terrorism, piracy, and serious natural disasters and epidemics, which places new requirements on China to address these threats. Some OBOR projects could create potential military advantages for the PRC, such as PLA access to selected foreign ports to pre-position the necessary logistics support to sustain naval deployments in waters as distant as the Indian Ocean, Mediterranean Sea, and Atlantic Ocean to protect its growing interests. In 2019, Beijing hosted the Second Belt and Road Forum, during which the PRC sought to address growing international skepticism stemming from concerns over corruption, indebtedness, environmental sustainability, and lack of transparency surrounding OBOR projects.

- *Digital Silk Road*: The PRC's Digital Silk Road initiative, announced in 2015 as a digital subset of OBOR, seeks to build China-centric digital infrastructure, export industrial overcapacity, facilitate expansion of Chinese technology corporations, and access large repositories of data. The PRC

also hopes the Digital Silk Road will increase international e-commerce by reducing cross-border trade barriers and establishing regional logistics centers by promoting e-commerce through digital free trade zones. China is investing in digital infrastructure abroad, including next-generation cellular networks—such as fifth-generation (5G) networks—fiber optic cables, undersea cables, and data centers. The initiative also includes developing advanced technologies including satellite navigation systems, artificial intelligence (AI), and quantum computing for domestic use and export.

Legal Framework. The PRC in recent years has implemented new laws that seek to place further restrictions on foreign firms while creating or strengthening the legal framework for the Party's national security concepts and in some cases furthering its Military-Civil Fusion (MCF) Development Strategy (discussed in the next section):

- *National Security Law*: Adopted in July 2015, the law limits foreign access to the information and communications technology (ICT) market in China on national security grounds.
- *Counterterrorism Law*: Adopted in December 2015, among its provisions, the law requires telecommunications operators and Internet service providers to provide information, decryption, and other technical support to public and state security organizations "conducting prevention and investigation of terrorist activities."
- *Cyber Security Law*: The law, which went into effect in June 2017, promotes development of indigenous technologies and restricts sales of foreign ICT in China. The law also requires that foreign companies submit ICT for government-administered national security reviews, store data in China, and seek government approval before transferring data outside of China.
- *Intelligence Law*: Passed in June 2017, the law allows authorities to monitor and investigate foreign and domestic individuals and organizations to protect national security. Specifically, it allows authorities to use or seize vehicles, communication devices, and buildings to support intelligence collection efforts.
- *Cryptography Law*: Adopted in October 2019 and coming into effect in 2020, this law requires entities working on cryptography to have management systems in place to ensure sufficient security for their encryption. Although the law encourages development of commercial encryption technology, its use cannot harm national security or the public good. It provides for the State Cryptography Administration and its local agencies to have complete access to cryptography systems and the data protected by those systems.

In March 2019, the PRC's NPC passed a new Foreign Investment Law with the stated objective of improving the business environment for foreign investors and leveling the playing field between foreign businesses and Chinese private firms and SOEs. The law passed in just three months, which reflects an unusually fast turnaround in China where the same level of legislation usually takes years. PRC officials have indicated that swift passage of the law was to facilitate U.S.-China trade talks, and the law appears to respond to a number of issues raised by the U.S. Trade Representative's Section 301 report related to unfair Chinese trade practices related to intellectual property, technology transfer, and innovation. Despite the law's stated objective, its wording is vague and the most substantial provisions are not new.

Economic Coercion. The PRC employs economic coercion to advance its objectives during periods of political tensions with other countries. For example, in response to legislation in 2019 that would lead to a ban on Huawei operating in Germany, China's ambassador alluded to retaliation against German automobile sales in China. In 2017, China used economic and diplomatic pressure in an attempt to urge South Korea to reconsider its approval for the United States to deploy the Terminal High-Altitude Area Defense (THAAD) system within its territory. In 2016, after the visit of the Dalai Lama to Mongolia, the PRC suspended talks on a major assistance loan, worsening Mongolia's fiscal challenges and eventually driving it to seek a bailout from the International Monetary Fund. China also increased fees on imports of mining products from Mongolia and temporarily closed an important border crossing.

MILITARY-CIVIL FUSION DEVELOPMENT STRATEGY

Key Takeaways

- The PRC pursues its Military-Civil Fusion (MCF) Development Strategy to "fuse" its economic and social development strategies with its security strategies to build an integrated national strategic system and capabilities in support of China's national rejuvenation goals.
- Although China's MCF strategy includes objectives to develop and acquire advanced dual-use technology for military purposes and deepen reform of the national defense science and technology industries, its broader purpose is to strengthen all of China's instruments of national power by "fusing" aspects of its economic, military, and social governance.
- China's MCF development strategy encompasses six interrelated efforts: (1) fusing the China's defense industrial base and its civilian technology and industrial base; (2) integrating and leveraging science and technology innovations across military and civilian sectors; (3) cultivating talent and blending military and civilian expertise and knowledge; (4) building military requirements into civilian infrastructure and leveraging civilian construction for military purposes; (5) leveraging civilian service and logistics capabilities for military purposes; and, (6) expanding and deepening China's national defense mobilization system to include all relevant aspects of its society and economy for use in competition and war.
- Although MCF has broader purposes than acquiring foreign technology, in practice, MCF means there is not a clear line between the PRC's civilian and military economies, raising due diligence costs for U.S. and global entities that do not desire to contribute to the PRC's military modernization.

The PRC pursues its Military-Civil Fusion (MCF) Development Strategy as a nationwide endeavor that seeks to "fuse" its economic and social development strategies with its security strategies to build an integrated national strategic system and capabilities in support of China's national rejuvenation goals. The Party's leaders view MCF as a critical element of their strategy for the PRC to become a "great modern socialist country" which includes becoming a world leader in science and technology (S&T) and developing a "world-class" military. Although China's MCF strategy includes objectives to develop and acquire advanced dual-use technology for military purposes and deepen reform of the national defense S&T industries, its broader purpose is to strengthen all of China's instruments of national power by "fusing" aspects of its economic, military, and social governance.

China pursues MCF through six interrelated efforts. Each effort overlaps with the others and has both domestic and international components. The Party seeks to implement the MCF Development Strategy across every level of China's party-state from the highest national-level organs down to provinces and township. China refers to these six aspects as "systems," which may also be understood as mutually supporting lines of effort or components. The six systems in the MCF Development Strategy are:

The Advanced Defense Science, Technology, and Industrial System. This system focuses on fusing China's defense industrial base and its civilian technology and industrial base. This includes expanding the private sector's participation in China's defense industrial base and supply chains as well as improving the efficiency, capacity, and flexibility of defense and civilian industrial and manufacturing processes. This broader participation seeks to transfer mature technologies both ways across military and civilian sectors, with the goal to produce outsized benefits for both sectors. This also aims to increase the competitiveness within the PRC's defense industrial base in which one or two defense SOEs dominate an entire sector. This MCF system also seeks to advance China's self-reliance in manufacturing key industrial technologies, equipment, and materials to reduce its dependence on imports, including those with dual-uses. The PRC's MCF-influenced industrial and technology endeavors include *Made in China 2025* that sets targets for China to achieve greater self-sufficiency in key industrial areas such as aerospace, communications, and transportation.

The Military-Civil Coordinated Technology Innovation System. This MCF system seeks to maximize the full benefits and potential of the country's S&T development. Consistent with the CCP leadership's view that high technology and innovation are critical to strengthening China's composite national power, this system develops and integrates advanced technologies across civilian and military entities, projects and initiatives—with benefits flowing in both directions. This includes using cutting-edge civilian technology for military applications or to more broadly advance military S&T as well as using military advancements to push civilian economic development. Although related to the Advanced Defense Science, Technology, and Industrial System, this system largely focuses on fusing innovations and advance in basic and applied research. Specific efforts in this MCF system include strengthening and promoting civilian and military R&D in advanced dual-use technologies and cross-pollinating military and civilian basic research. Additional efforts include promoting the sharing of scientific resources, expanding the institutions involved in defense research, and fostering greater collaboration across defense and civilian research communities. This system also seeks to foster "new-type" research institutions with mixed funding sources and lean management structures that are more dynamic, efficient, and effective than the PRC's wholly state-owned research bodies. Examples of

MCF-influenced dual-use S&T endeavors include China's Innovation Driven Development Strategy and Artificial Intelligence National Project.

The Fundamental Domain Resource Sharing System. This system includes building military requirements into the construction of civilian infrastructure from the ground up as well as leveraging China's civilian construction and logistics capacities and capabilities for military purposes. This includes factoring military requirements and dual-use purposes into building civilian private and public transportation infrastructure such as airports, port facilities, railways, roads, and communications networks. This also extends to infrastructure projects in dual-use domains such as space and undersea as well as mobile communications networks and topographical and meteorological systems. Another element seeks to set common military and civilian standards to make infrastructure easier to use in emergencies and wartime. This aspect of MCF has arguably the greatest reach into the PRC's local governance systems as military requirements inform infrastructure construction at the province, county, and township levels. The influence of this aspect of MCF is visible in the PRC's major land reclamations and military construction activities in the South China Sea, which brought together numerous government entities, the PLA, law enforcement, construction companies, and commercial entities. It may also have important implications for the PRC's overseas infrastructure projects and investments under OBOR as the PRC seeks to establish a more robust overseas logistics and basing infrastructure to allow the PLA to project and sustain military power.

The Military Personnel (Talent) Cultivation System. This MCF system seeks to blend and cultivate military and civilian S&T expertise through education programs, personnel exchanges, and knowledge sharing. The purpose of this effort is to improve the utilization of experts able to participate in S&T projects irrespective of whether they are military or civilian (or even foreign) experts and allow expertise to flow more freely across sectors. This aspect of MCF also seeks to reform China's talent cultivation system, which encompasses hundreds of talent recruitment plans, in order to improve China's human capital, build a highly skilled workforce, and recruit foreign experts to provide access to know-how, expertise, and foreign technology. It takes into account all levels of education from the Party's nationwide "patriotic education" programs for children to the matriculation of post-doctorate researchers within China and at institutions abroad. Many of the PRC's named "talents" programs are likely influenced by MCF planning, as are reforms in its military academies, national universities, and research institutes.

The Socialized Support and Sustainment System for the PLA. This system entails two major efforts that seeks to shift the PLA away from its inefficient self-contained logistics and sustainment systems and towards modern streamlined logistics and support services. First, it seeks to harness civilian public sector and private sector resources to improve the PLA's basic services and support

functions—ranging from food, housing, and healthcare services. The concept is to gain efficiencies in costs and personnel by outsourcing non-military services previously performed by the PLA while also improving the quality of life for military personnel. Second, it seeks to further the construction of a modern military logistics system that is able to support and sustain the PLA in joint operations and for overseas operations. This system seeks to fuse the PLA Joint Logistic Support Force's (JLSF) efforts to integrate the military's joint logistics functions with the PRC's advanced civilian logistics, infrastructure, and delivery service companies and networks. These arrangements seek to provide the PLA with modern transportation and distribution, warehousing, information sharing, and other types of support in peacetime and wartime. This fusion also seeks to provide the PLA with a logistics system that is more efficient, higher capacity, higher quality, and global in reach.

The National Defense Mobilization System. This MCF system binds the other systems as it seeks to mobilize China's military, economic, and social resources to defend or advance China's sovereignty, security and development interests. The Party views China's growing strength as only useful to the extent that the party-state can mobilize it. China views mobilization as the ability to use precisely the instrument, capability, or resource needed, when needed, for the duration needed. Within the PLA, the reforms in 2015-16 elevated defense mobilization to a department called the National Defense Mobilization Department (NDMD), which reports directly to the Central Military Commission (CMC). The NDMD plays an important role in this system by organizing and overseeing the PLA's reserve forces, militia, and provincial military districts and below. This system also seeks to integrate the state emergency management system into the national defense mobilization system in order to achieve a coordinated military-civilian response during a crisis. Consistent with the Party's view of international competition, many MCF mobilization initiatives not only seek to reform how China mobilizes for war and responds to emergencies, but how the economy and society can be leveraged to support China's strategic needs for international competition.

Development and Significance. The Party has explored the concept of leveraging or integrating the combined contributions of the military and civilian sectors since the PRC's founding. The current MCF concept initially took root in the early 2000s as the Party sought methods to enhance China's overall development. This led Party leaders to call for improving "military-civilian integration" that echoed the collaboration between the defense and civilian sectors that China observed in the United States and other developed countries. Implementation of these efforts stalled due to a lack of centralized government control and the organizational barriers that exist across the party-state. Coinciding with the 11th Five Year Plan (FYP) (2006-2010), China began replacing "military-civilian integration" with "military-civilian fusion." In 2007, Party officials publicly noted the change from

"integration" to "fusion" was not merely cosmetic, but represented a "theoretical 'great leap' following a long period of trial and error."

Since that time, MCF's ambitions have grown in scope and scale as the Party has come to view it as a means to bridge China's economic and social development with its security development in support of the PRC's national strategy to renew China. As such, the Party has continued to elevate MCF's importance. In 2015, the CCP Central Committee elevated the MCF Development Strategy to a national-level strategy to serve as a "bridge" between the PRC's national development strategy and its national security strategy that seeks to build an "integrated national strategic system and capabilities," all of which support the PRC's goal of national rejuvenation.

Management and Implementation. The overall management and implementation of the MCF Development Strategy involves the most powerful organs in the party-state: the Politburo, the State Council (notably the National Development and Reform Commission), and the CMC. In addition to signifying its importance, the CCP Central Committee's elevation of the MCF Development Strategy to a national-level strategy also intended to overcome obstacles to implementation across the party-state.

This elevation also led to the establishment of the Central Commission for Military Civilian Fusion Development (CCMCFD) in 2017, chaired by General Secretary Xi Jinping, Premier Li Keqiang, several other members of the Politburo Standing Committee, two State Councilors, both CMC Vice Chairmen, 12 Ministry-level leaders, and others. The stated objective of the CCMCFD is to build China's "national strategic system and capabilities." This commission works to improve the "top-level design" of MCF and overcome impediments to implementation. The elevation of the MCF Development Strategy and the creation of the CCMCFD signals the importance that Party leaders place on MCF and the scope and scale of the strategy's ambitions.

MCF Linkages. Each MCF system entails linkages between dozens of organizations and government entities, including:

- *Ministry-level organizations from the State Council:* Examples include the National Development and Reform Commission, Ministry of Foreign Affairs, Ministry of Industry and Information Technology, Ministry of Education, and key state entities such as the State Administration of Science and Technology in National Defense and others.
- *Lead military organs subordinate to the Central Military Commission*: CMC Strategic Planning Office, Joint Political, Logistics, and Equipment Development Departments, as well as operational units and the regional military structure at the Military District and Sub-District levels; military universities

and academies such as National Defense University, Academy of Military Science, National University of Defense Technology, and service institutions.

- *State-sponsored educational institutions, research centers, and key laboratories*: prominent examples include the "Seven Sons of National Defense" (Harbin Institute of Technology, Nanjing University of Science and Technology, Northwestern Polytechnical Institute, Beijing Institute of Technology, Harbin Engineering University, Beihang University, Nanjing University of Aeronautics and Astronautics), as well as certain PLA-affiliated laboratories of Tsinghua University, Beijing University, and Shanghai Jiaotong University, North University of China, and others.
- *Defense industry*: the ten major defense SOEs still fill their traditional roles providing weapons and equipment to the military services. Many defense SOEs consist of dozens of subsidiaries, sub-contractors, and subordinate research institutes.
- *Other SOEs and quasi-private companies*: high profile examples include PRC high-tech corporations and important SOEs like China Ocean Shipping Company (COSCO), China National Offshore Oil Company, and major construction companies that have roles in OBOR projects as well as helping the PRC build out occupied terrain features in the South China Sea.
- *Provincial governments*: In practice, many MCF efforts involve partnerships between provincial or city government entities and military district departments and PLA departments.

DEFENSE POLICY AND MILITARY STRATEGY

Key Takeaways

- The PRC has stated its defense policy aims to safeguard its sovereignty, security, and development interests. China's military strategy remains based on the concept of "active defense."
- China's leaders stress the imperative of strengthening the PLA into a "world-class" military by the end of 2049 as an essential element of its strategy to rejuvenate China into a "great modern socialist country."
- The CCP has not defined what it means by its ambition to have a "world-class" military by the end of 2049. Within the context of China's national strategy, however, it is likely that China will aim to develop a military by mid-century that is equal to—or in some cases superior to—the U.S. military, or that of any other great power that China views as a threat to its sovereignty, security, and development interests.
- In 2019, the PLA remained primarily oriented towards longstanding regional threats while emphasizing a greater global role for itself in accordance with China's defense policy and military strategy.
- Throughout 2019, the PLA continued to pursue ambitious modernization efforts, implement major organizational reforms, and improve its combat readiness.

The PRC has stated its defense policy aims to safeguard its national sovereignty, security, and development interests. China's leaders view these interests as foundational to their national strategy. In 2019, China's defense policy and military strategy primarily oriented the PLA towards longstanding regional threats. At the same time, China's leaders increasingly cast the armed forces as a practical instrument to defend Beijing's expanding global interests and to advance its foreign policy goals within the framework of "Major Power Diplomacy in a New Era." China's military strategy is based on "active defense," a concept that adopts the principles of strategic defense in combination with offensive action at the operational and tactical levels. To adapt the PRC's armed forces to long-term trends in global military affairs and meet the country's evolving national security needs, China's leaders stress the imperative of meeting key military transformation targets set in 2020 and 2035. These milestones seek to align the PLA's transformation with China's overall national modernization so that by the end of 2049, China will field a "world-class" military. Throughout 2019, the PLA continued to

pursue these ambitious modernization efforts, implement major organizational reforms, and improve its combat readiness.

Strategic Assessment. A key driver of the PRC's defense policy is how China's leaders perceive the relative threats and opportunities facing the country's comprehensive development. In 2019, the PRC published a new defense white paper, China's National Defense in the New Era, which outlined China's views of the international and "Asia-Pacific" security landscape and offered insights into its defense policy and military strategy. According to the paper, Beijing views the international environment as undergoing "profound changes unseen in a century." The PRC presents a relatively optimistic assessment that, "… the configuration of strategic power is becoming more balanced. The pursuit of peace, stability and development has become a universal aspiration of the international community with forces for peace predominating over elements of war."

Yet the PRC also concludes that "international strategic competition is on the rise" and expresses deep concerns at what it sees as growing sources of instability in the near-term. Offering no introspection on Beijing's own role in stirring geopolitical tensions through its economic practices, military activities and modernization, excessive maritime territorial claims, or efforts to revise aspects of global governance, the PRC describes the international system as being "…undermined by growing hegemonism, power politics, unilateralism and constant regional conflicts and wars." Similarly, the PRC contends that global military competition is intensifying and that "major countries" are adjusting their security and military strategies, reorganizing their militaries, and are developing new types of combat forces to "seize the strategic commanding heights in military competition."

Defense Policy. The PRC's stated defense policy is to "resolutely safeguard" its sovereignty, security, and development interests, according to its 2019 defense white paper—offering continuity with past statements by PRC senior leaders and other official documents. The 2019 defense white paper also identifies China's national defense aims that support these interests, likely offered in order of importance:

- to deter and resist aggression;
- to safeguard national political security, the people's security and social stability;
- to oppose and contain "Taiwan independence";
- to crack down on proponents of separatist movements such as "Tibet independence" and the creation of "East Turkistan";
- to safeguard national sovereignty, unity, territorial integrity and security;

- to safeguard China's maritime rights and interests;
- to safeguard China's security interests in outer space, electromagnetic space and cyberspace;
- to safeguard China's overseas interests; and,
- to support the sustainable development of the country.

Party-Army Relations

The PLA is the principal armed wing of the CCP and, as a party-army, does not directly serve the state. The CCP Central Military Commission (CMC), currently chaired by Xi Jinping, is the highest military decision-making body in China. As a party-army, the PLA is a political actor. As a constituency within the Party, it participates in the PRC's political and governance systems. As the ultimate guarantor of the Party's rule and political and governance systems, the PLA's missions include formal and informal domestic security missions in addition to its national defense missions. Although visible differences between the CCP and the PLA are extremely rare, in recent years outside observers have pointed out that Party leaders and official propaganda have increasingly emphasized the principles of the Party's absolute control over the PLA and the PLA's loyalty to the Party, despite the fact that the officer corps is composed almost entirely of Party members.

Military Strategic Guidelines. The Chairman of the CMC issues military strategic guidelines to the PLA that provide the foundation of China's military strategy. The military strategic guidelines set the general principles and concepts for the use of force in support of the CCP's strategic objectives, provide guidance on the threats and conditions the armed forces should be prepared to face, and set priorities for planning, modernization, force structure, and readiness. The CCP leadership issues new military strategic guidelines whenever they perceive it necessary to shift the PLA's priorities based on the Party's perceptions of China's security environment or changes in the character of warfare.

Recent trends suggest China may have recently reviewed and adjusted its military strategic guidelines. In early 2019, PRC state media indicated senior-level meetings were being held to "establish the military strategy of the 'New Era.'" The PRC's 2019 defense white paper states that the PLA is implementing guidelines for the "New Era" that, "…actively adapt to the new landscape of strategic competition, the new demands of national security, and new developments in modern warfare…" PRC official media in the latter half of 2019 echoed these themes and described the guidelines as

constituting a notable change. The PRC's defense white paper may reflect changes in the guidelines given its emphasis on the intensification of global military competition, the increase in the pace of technological change, and the military modernization themes introduced by General Secretary Xi at the 19th Party Congress.

These developments are notable because the CCP leadership has issued new military strategic guidelines only a few times since the end of the Cold War. In 1993, the CMC under Jiang Zemin directed the PLA to prepare to win "local wars" under "high-tech conditions" after observing U.S. military operations in the Gulf War. In 2004, the CMC under Hu Jintao ordered the military to focus on winning "local wars under informatized conditions." In 2014, the CMC under Chairman Xi Jinping issued new guidelines that placed greater focus on conflicts in the maritime domain and fighting "informatized local wars."

Military Strategy: Active Defense. China's military strategy is based on active defense, a concept that adopts the principles of strategic defense in combination with offensive action at the operational and tactical levels. Active defense is neither a purely defensive strategy nor limited to territorial defense. Active defense encompasses offensive and preemptive aspects. It can apply to the PRC acting externally to defend its interests. Active defense is rooted on the principle of avoiding initiating armed conflict, but responding forcefully if challenged. China's 2019 defense white paper reaffirmed active defense as the basis for its military strategy. Minister of National Defense Gen Wei Fenghe reiterated this principle of active defense in his speech at the Ninth Beijing Xiangshan Forum in 2019, stating that China "will not attack unless attacked but will surely counterattack if attacked."

First adopted by the CCP in the 1930s, active defense has served as the basis for the PRC's military strategy since its founding in 1949. Although China has adjusted and tailored the specifics of active defense over time based on changes in strategic circumstances, its general principles have remained consistent. Contemporary Chinese writings describe the tenets of active defense as:

- *Adhere to a position of self-defense and stay with striking back.* This describes the basic principle for the use of military force under active defense. The PRC's 2019 defense white paper describes this principle as, "We will not attack unless we are attacked, but we will surely counterattack if attacked." Active defense may entail defensive counterattacks in response to an attack or preemptively striking an adversary preparing to attack.

- *Combine strategic defense with operational and tactical offense.* This aspect offers two approaches to warfare influenced by Mao Zedong's notion of using defense and offensive in turns. First, active defense may involve offensive campaigns, operations, and tactical actions in support of the strategic

defense. These may occur rapidly and along "external lines." Second, it uses strategic defense to weaken the enemy and set the conditions to transition into strategic offense in order to secure victory.

- *Taking the operational initiative.* This aspect emphasizes the effective use of offensives at the operational and tactical levels, avoiding enemy strengths, and concentrating on building asymmetric advantages against enemy weaknesses to "change what is inferior into what is superior."

- *Strive for the best possibilities.* This calls for thorough peacetime military preparations and planning based on fighting the most challenging threat under the most complicated circumstances "in order to get the best results." This aspect stresses the importance of setting conditions in advance and suggests it is preferable to be prepared and not fight, than to fight unprepared.

- *The dialectical unity of restraining war and winning war.* This tenet seeks to resolve the dilemma that using too little force may protract a war instead of stopping it while the unconstrained use of force may worsen a war and make it harder to stop. Calling for the "effective restraint of warfare," this tenet seeks to avoid war first through sufficient military preparations and powerful conventional and strategic forces that act in concert with political and diplomatic efforts to "subdue the enemy's troops without fighting." If war is unavoidable, however, this aspect calls for restraining war by taking the "opening move" and "using war to stop war."

- *Soldiers and the people are the source of victory.* This integrates the concept of active defense with the concept of "people's war." People's war comprises subordinate military strategies, "guerrilla war" and "protracted war" that Mao saw as a means to harness the capacity of China's populace as a source of political legitimacy and mobilization to generate military power. Contemporary Chinese writings link people's war to national mobilization and participation in wartime as a whole-of-nation concept of warfare.

Military Missions and Tasks. The CMC directs the PLA to be ready and able to perform specific missions and tasks to support the Party's strategy and defend the PRC's sovereignty, security, and development interests. The PLA's missions and tasks in the "New Era" include: safeguarding China's territorial sovereignty and maritime rights and interests; maintaining combat readiness; conducting military training under real combat conditions; safeguarding China's nuclear weapons and its interests in the space and cyber domains; countering terrorism and maintaining stability; protecting the PRC's overseas interests; and participating in emergency response and disaster relief.

The PRC's Internal Security Forces

The PRC's internal security forces consist primarily of the Ministry of Public Security (MPS), the Ministry of State Security (MSS), the People's Armed Police (PAP), the PLA, and the militia. The Party relies on these forces to address challenges ranging from protests over political, social, environmental, or economic problems, to terrorism and natural disasters. For example, in 2019, the PRC's internal security forces in Xinjiang oversaw extensive detentions of Uyghurs at detention camps, mass surveillance, suppression of religious activities, and searches of personal property. In 2019, the PRC deployed the PAP in Shenzhen and probably in Hong Kong to bolster PLA Hong Kong Garrison elements positioned to respond to protests. The PRC's 2019 defense white paper claimed that since 2012 it has deployed 950,000 PLA and PAP soldiers and 1.41 million militia personnel for domestic emergency response and disaster relief.

Ministry of Public Security (MPS). The MPS leads the PRC's civilian national police, which serves as the first-line force for public order. The key mission of the MPS is domestic law enforcement and the "maintenance of social security and order" with duties including anti-rioting and anti-terrorism.

Ministry of State Security (MSS). The MSS is the PRC's main civilian intelligence and counterintelligence service. The missions of the MSS are to protect the PRC's national security; secure political and social stability; implement the State Security Law and related laws and regulations; protect state secrets; conduct counterintelligence; and investigate organizations or people inside China who carry out or direct, support, or aid other people perceived to harm national security.

People's Armed Police (PAP). The PAP is a paramilitary component of the PRC's armed forces. Its primary missions include internal security, maintaining public order, maritime security, and assisting the PLA in times of war. As part of a reorganization of China's security structures, in 2018, the CMC assumed direct control of the PAP. The same reform also subordinated the China Coast Guard (CCG) to the PAP.

People's Liberation Army (PLA). In addition to its national defense mission, the PLA has formal and informal roles in the PRC's internal security. As the principal armed wing of the CCP, the PLA is the ultimate guarantor of the CCP's survival and supports other internal security forces as necessary. For example, the PLA may provide transportation, logistics, and intelligence to assist local public security forces with internal security. The PLA's active and reserve forces are authorized under the 1997 National Defense Law to directly "assist in maintaining public order" when CCP leaders consider it necessary.

Militia. The militia is an armed reserve force of civilians available for mobilization. It is distinct from the PLA's reserve forces. Militia units organize around towns, villages, urban sub-districts, and enterprises and vary widely in composition and mission. The PRC's 1997 *National Defense Law* authorizes the militia to assist in maintaining public order. The People's Armed Forces Maritime Militia (PAFMM) is a component of the militia and its tasks include safeguarding maritime claims, which it often performs in conjunction with the PLAN and the CCG.

Modernization Objectives and Targets. Within the context of the Party's strategy, the modernization of the PRC's armed forces is not merely a policy preference or a momentary endeavor that may fade over time in importance. Rather, modernization of the armed forces is an indispensable element of the Party's national strategy to modernize the country. As the PRC's 2019 defense white paper states, "Building a fortified national defense and a strong military commensurate with the country's international standing and its security and development interests is *a strategic task for China's socialist modernization*" [emphasis added]. Throughout 2019, the PLA continued to pursue ambitious modernization objectives, implement major organizational reforms, and improve its combat readiness in line with the goals and timelines announced by General Secretary Xi Jinping at the 19th Party Congress in 2017. The PRC's goals for modernizing its armed forces in the "New Era," as stated in the 2019 defense white paper, are:

- **By 2020**: "To generally achieve mechanization…with significantly enhanced informationization and greatly improved strategic capabilities;"
- **By 2035**: "To comprehensively advance the modernization of military theory, organizational structure, military personnel, and weaponry and equipment in step with the modernization of the country and basically complete the modernization of national defense and the military …"; and,
- **In 2049**: "To fully transform the people's armed forces into world-class forces."

The PLA's modernization goals set by Chairman Xi Jinping and the CMC align with and provide support to the broader elements of China's national strategy, including the two centenary milestones in 2021 and 2049 and the interim waypoint in 2035. China wants to "generally" complete the PLA's mechanization and make "major progress" toward informatization by the end of 2020. This is ahead of the CCP's centenary in 2021, the point at which the Party seeks to complete building China into a "moderately prosperous society." Beyond 2021, the PLA's major modernization goals follow the Party's "two-step" national development approach to achieving national rejuvenation in 2049. In the first stage from 2021 to 2035, the PLA will seek to "basically complete" military modernization by 2035, at which point China will have "basically" met the Party's initial thresholds of a "great modern socialist country." In the second stage from 2035 to 2049, the PLA will aim to complete its transformation into a "world-class" military in support of the Party's goal to finish national modernization and fully realize its renewal as a "great modern socialist country."

Although China's leaders view building military strength as a strategic imperative, they also place important caveats on these objectives. For example, Chairman Xi's direction to the PLA to "basically complete" modernization by 2035 should also occur "in step with the modernization of the country."

These qualifications serve several purposes that highlight the interlocking nature of the Party's strategic planning. First, as the PRC's interests continue to expand as it develops, the Party expects the PLA to keep pace with the country's evolving interests and be ready and able to defend its progress. Second, linking the PLA's transformation to the country's transformation allows Party leaders to signal the scope and scale of the internal changes they expect the PLA to implement, particularly given its historic resistance to reforms that challenge its risk-adverse organizational culture or threaten vested bureaucratic interests. Finally, these qualifications provide flexibility to the Party's leaders to modulate military resources and defense objectives based on the conditions of the country's overall development. This offers the PRC's leaders flexibility to adapt to changing economic or international conditions and ensure military investments support—rather than compromise—the strategy.

Defense Ambitions. The CCP has not defined what it means by its ambition to have a "world-class" military by the end of 2049. Within the context of China's national strategy, however, it is likely that China will seek to develop a military by mid-century that is equal to—or in some cases superior to—the U.S. military, or that of any other great power that China views as a threat to its sovereignty, security, and development interests. Given the far-reaching ambitions the CCP has for a rejuvenated China, it is unlikely that the Party would aim for an end state in which China would remain in a position of military inferiority vis-à-vis the United States or any other potential rival. For China to aim lower or otherwise willingly accept a permanent condition of military inferiority would seem anathema to the fundamental purpose of becoming a "great modern socialist country." However, this does not mean that China will aim for the PLA to mirror the U.S. military in terms of capacity, capability, or readiness. China will likely develop its "world-class" military in a manner that best suits the needs of China's armed forces to defend and advance the country's interests and how the PLA—guided by the Party—adapts to the changing character of warfare. Additionally, China's military modernization ambitions do not necessarily shed light on how the PRC may intend to use force or posture its forces abroad in the future.

Readiness. As with other aspects of China's growing strength, the Party views the PLA's long-term development as useful to the extent that the party-state can wield it. Alongside modernizing the PLA's capabilities and organizational reform, China's leaders have identified enhancing the combat readiness of the armed forces as an important element in developing China's military strength. In recent years, Chairman Xi Jinping and senior military leaders have continued to emphasize the need to build the PLA's combat readiness so it can "fight and win." This emphasis has not only entailed the PLA conducting more training, but making its training more rigorous and realistic as well as addressing issues in the PLA's training and education systems relating conducting complex joint operations and adapting to other aspects of modern warfare.

Non-War Military Activities (NWMA)

PLA writings divide military operations into two categories: war and non-war. The PLA's concept of non-war military activities (NWMA) is an expansive and diverse set of military operations ranging from humanitarian assistance and disaster relief (HA/DR) to suppressing domestic unrest to maritime rights protection. PLA writings describe NWMA as serving a variety of political purposes, occurring at varying intensities and durations, and may include the threat of violence or the use of violence from low levels to levels approaching war. According to PLA writings, NWMA are an important "strategic means" for the military to serve the national political interest. Additionally, the PLA views NWMA as an effective way for it to support and safeguard China's development, as a means to expand the PRC's global interests, and an opportunity to gain valuable operational experience.

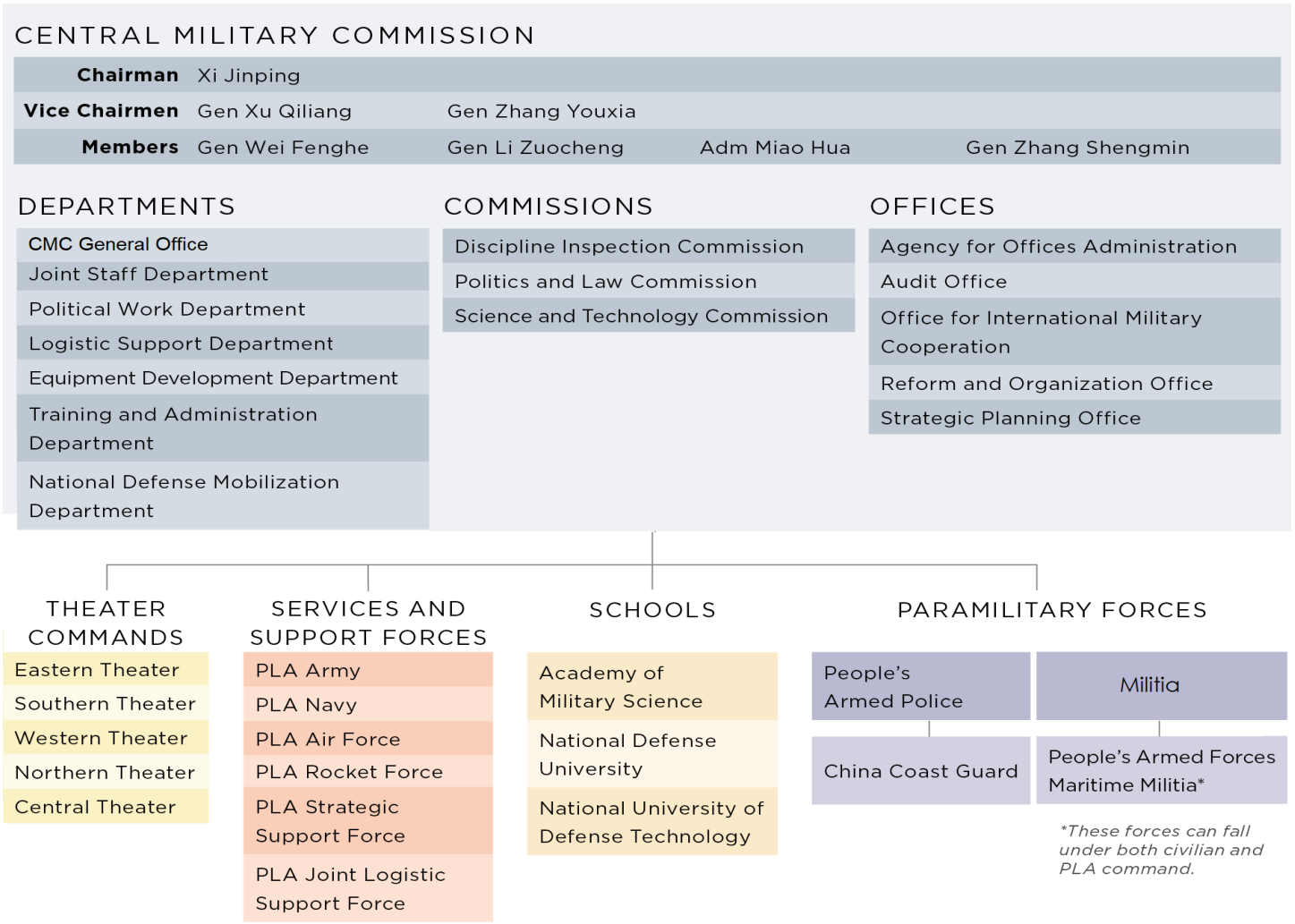
NWMA can be conducted internationally or domestically and encompass activities in multiple domains. NWMA can notably include operations in which the PLA uses coercive threats and/or violence below the level of armed conflict against states and other actors to safeguard the PRC's sovereignty and national interests. NWMA can also blend military and law enforcement activities including for maritime rights protection, border and coastal defense, air and sea control, deterrence operations, suppression of domestic unrest, and other forms of stability maintenance operations. NWMA also includes military diplomacy, HA/DR, counterterrorism, counterpiracy, counterdrug, peacekeeping, and noncombatant evacuation operations. In the past, PRC official writings have described aspects of NWMA as military operations other than war (MOOTW).

Along with the CCP leadership's focus on improving the PLA's combat readiness, in recent years PLA media outlets have noted shortcomings in the military's training and education systems that reportedly left some commanders—particularly at the operational level—inadequately prepared for modern warfare. In recent years, PLA media outlets have identified the need for the military to address the "Five Incapables" problem: that some commanders cannot (1) judge situations; (2) understand higher authorities' intentions; (3) make operational decisions; (4) deploy forces; and, (5) manage unexpected situations. Although PLA writings do not specify how widespread the "Five Incapables" are, PLA media outlets have consistently raised them. One outside expert has noted this may indicate the PLA lacks confidence in its proficiency to execute its own operational concepts. Additionally, senior Party and PLA leaders are keenly aware that the military has not experienced combat in decades nor fought with its current suite of capabilities and organizational structures. PLA leaders and state media frequently call on the force to remedy the "peacetime disease" that manifests in the form of lax training attitudes and practices that are viewed as hindering combat readiness.

The CMC and PLA continue to take determined steps to rectify these issues and strengthen the PLA's readiness. Starting in 2018, the PLA introduced a "rolling" training outline to ensure continuity in training and more dynamically adjust training to new requirements. In January 2019, the PLA updated its *Outline of Military Training and Evaluation* to emphasize realistic and joint training across all warfare domains. The 2019 outline reflects the PLA's push to streamline various training requirements established by national-level authorities, the theater commands, and services, as well as to enhance accountability for training standards and increase peacetime combat readiness. In February 2019, Chairman Xi issued a new regulation to the PLA that formally expanded the supervision of military training with inspectors and a new oversight system. According to PRC state media, the regulation sought to "rectify practices that are inconsistent with the requirements of actual combat" and correct "peacetime malpractices." Similarly, the PRC's 2019 defense white paper claimed the PLA (and PAP and militia) are placing a higher priority on combat readiness, enhancing training under realistic combat conditions, organizing contests and competitions to encourage training, and stepping up oversight of training to ensure adherence to training standards to "uproot peacetime ills." Chapter 2 discusses the PLA's 2019 training and exercises in detail.

Anticorruption Campaign. Anticorruption investigations in the PLA are a component of a Party-wide effort that General Secretary Xi strengthened and accelerated shortly after taking office. The stated goal of these campaigns is to safeguard the legitimacy of the CCP, root out corruption, improve governance, and centralize Xi's and the Party's authority. Military discipline inspectors led by the CMC Discipline Inspection Commission have targeted individual power networks and occupational specialties historically prone to corruption, such as officers connected to disgraced former CMC Vice Chairmen Xu Caihou and Guo Boxiong and, more recently, to General Fang Fenghui and General Zhang Yang. The Party demoted more than 70 PLA officers for their alleged involvement in Fang Fenghui's bribery scheme; Fang was sentenced to life in prison in February 2019.

China's Military Leadership



This chart does not depict the Ministry of National Defense (which is not in the chain of command), general offices, military districts, garrisons, sub-districts, and People's Armed Forces Departments (which command the militia)

China's Military Leadership

The military's highest decision-making body, the Central Military Commission (CMC), is technically a department of the CCP Central Committee. The CMC Chairman is a civilian, usually serving concurrently as the General Secretary of the CCP and President of China. Following the 19th Party Congress, the CMC consists of two vice chairs, the chiefs of the Joint Staff and Political Work Departments, the head of the Discipline Inspection Commission, and the Minister of National Defense.

Members of the CCP Central Military Commission

Chairman Xi Jinping's appointment as Party General Secretary and CMC Chairman in 2012 and his selection as President in the spring of 2013 represented the first simultaneous transfer of all three of China's top positions to an incoming leader in recent decades. Xi was reappointed to his Party positions at the 19th Party Congress and was reappointed president in spring 2018 at the NPC. The same meeting also granted approval to remove presidential term limits, potentially allowing Xi to remain president beyond his second term. In 2016, Xi was announced as the commander-in-chief of the CMC's Joint Operations Command Center (JOCC) and was named "core" leader of the CCP Central Committee. Prior to becoming CMC Chairman, Xi served as the CMC's only civilian Vice Chairman under Hu Jintao. Xi's father was an important military figure during China's communist revolution and was a Politburo member in the 1980s. The younger Xi served as an aide to a defense minister early in his career and had regular interactions with the PLA as a provincial Party official. In meetings with U.S. officials, Xi has emphasized improving military-to-military relations between China and the United States.

Vice Chairman General Xu Qiliang is the first career PLA Air Force (PLAAF) officer appointed China's top uniformed official. Xu is a public advocate for reform and guides the effort as a deputy secretary of the CMC's reform leading group. Xu previously served on the CMC as the PLAAF commander, where he oversaw rapid force modernization and expanded the air force's foreign engagement. He may have crossed paths with Xi Jinping early in his career, when both men served in Fujian Province. Xu was the first PLAAF officer to serve as deputy chief of the General Staff Department (GSD) since the Cultural Revolution period, and – at 54 years of age at the time – the youngest in PLA history. Xu is serving a third term as a CMC member.

Vice Chairman General Zhang Youxia is China's second-most senior officer and former head of the Equipment Development Department. Zhang gained rare experience as a combat commander during China's brief war with Vietnam in 1979. Zhang formerly commanded the Shenyang Military Region, which shared a border with North Korea and Russia. Zhang is one of China's military

"princelings." His father, a well-known military figure in China, served with Xi Jinping's father at the close of China's Civil War in 1949. Zhang is currently serving his second term on the CMC.

Minister of National Defense General Wei Fenghe was appointed at the NPC in March 2018. Wei is the PLA's third-most senior officer and manages its relationship with state bureaucracies and foreign militaries. Unlike the U.S. Secretary of Defense, he is not part of the chain of command and his primary policy influence is derived from membership in the CMC. Wei served in multiple missile bases across different military regions and held top posts in the headquarters of the former PLA Second Artillery Corps, the PLA Rocket Force's (PLARF's) predecessor, before being promoted in late 2010 to Deputy Chief of the General Staff – the first officer from the Second Artillery to do so. Wei was previously the PLARF commander. Wei is serving a second term as a CMC member.

Joint Staff Department Chief General Li Zuocheng oversees PLA operations, a narrowing of the wider responsibilities held by the former GSD prior to reforms initiated in 2015. Li is one of few remaining active duty PLA officers with combat experience and is recognized as a combat hero for his service in the PRC's border war with Vietnam. He was also the first PLA Army (PLAA) commander after the PLAA became a separate service in 2015. Li previously commanded the Chengdu Military Region, which was responsible for the sensitive area of Tibet.

Political Work Department Director Admiral Miao Hua oversees the PLA's political work, including propaganda, organization, and education. Miao is a former Army officer who switched services to the Navy in December 2014 when he became political commissar of the PLA Navy (PLAN). Miao may have ties to Xi from his time serving in the 31st Group Army in Fujian Province, when his career overlapped with Xi's. Miao participated as the PLAN political commissar during the Navy's OBOR cruise conducted in mid-2017.

Secretary of the Discipline Inspection Commission General Zhang Shengmin oversees the highest-level organization responsible for investigating military violations of Party discipline. Zhang is also a deputy secretary and third ranking member on the standing committee of the Party's Discipline Inspection Commission. Zhang's appointments indicate the Party's commitment to the anticorruption campaign in the military. Shortly after his appointment to the CMC, Zhang was promoted to the rank of general, the highest rank in the military.

2

MISSIONS, TASKS, AND MODERNIZATION OF CHINA'S ARMED FORCES IN THE "NEW ERA"

Key Takeaways

- With a force that totals approximately two million personnel in the regular forces, the PLA has sought to modernize its capabilities and improve its proficiencies across all warfare domains so that as a joint force it can conduct the range of land, air, and maritime operations as well as space, counterspace, electronic warfare (EW), and cyber operations.
- The PLA's evolving capabilities and concepts continue to strengthen the PRC's ability to counter an intervention by a third party in a conflict along China's periphery and project power globally.
- In 2019, the PLA continued to make progress implementing major structural reforms, fielding modern indigenous systems, building readiness, and strengthening its competency to conduct joint operations.
- China has already achieved parity with—or even exceeded—the United States in several military modernization areas, including shipbuilding, land-based conventional ballistic and cruise missiles, and integrated air defense systems.

DEVELOPMENTS IN THE PLA'S MODERNIZATION AND REFORM

The PRC's strategy of national rejuvenation entails strengthening and adapting its armed forces to the long-term trends in global military affairs and meeting the country's evolving national security needs. During the last two decades, the PRC has invested in and improved the PLA's capabilities to address a range of security objectives beyond its continued emphasis on Taiwan contingencies. The PLA's evolving capabilities and concepts continue to strengthen the PRC's ability to counter an intervention by a third party in a conflict along China's periphery, project power globally, and deter nuclear attack.

With a force that totals approximately two million personnel in the regular forces, the PLA has sought to modernize its capabilities and improve its proficiencies across all warfare domains so that as a joint force it can conduct the range of land, air, and maritime operations as well as space, counterspace, electronic warfare (EW), and cyber operations. China has already achieved parity with—or even exceeded—the United States in several military modernization areas, including shipbuilding, land-based conventional ballistic and cruise missiles, and integrated air defense systems. Recognizing that joint operations, information flows, and rapid decision-making are vital in modern warfare, the PRC continues to place a high priority on modernizing the PLA's capability to command complex joint operations in near and distant battlefields. The PRC is seeking to enhance the PLA's joint command and control systems, joint logistics systems, and command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) systems. The PRC is also modernizing,

diversifying, and expanding its nuclear forces as well as deepening the PLA's interoperability and integration with the PRC's paramilitary and militia forces.

In recent years, the CCP's efforts to strengthen its armed forces have also included undertaking the most comprehensive restructuring of the PLA's command and control arrangements, forces structure, and administrative organs in its history. These reforms have sought to reinforce the CCP's control of the military, improve the PLA's ability to conduct joint operations, increase its combat effectiveness, and address longstanding issues such as corruption and the institutional primacy of the army over the other services.

Status of 2020 Milestones (Mechanization and Reform). Although the PLA continued to make progress towards its modernization and reform goals throughout 2019, the PLA might be unable to meet several of the milestones that it planned to achieve by 2020. Among the PLA's modernization goals set by the CCP leadership is to "generally achieve mechanization" by 2020. However, the PRC's 2019 defense white paper noted that the PLA had "yet to complete the task of mechanization," suggesting it was also unlikely that the PLA would achieve this goal by the end of 2020. Additionally, PLA officials have indicated that the third (and final) stage of PLA reforms would take place in 2021 or 2022. The PRC's original timetable from late 2015 for the completion of the PLA's reforms indicated that 2020 was the target for completion. References to 2021 or 2022 may imply the PLA is a year or two behind in completing its reforms. Both of these years are significant for the CCP. The Party aims for China to achieve its "moderately prosperous society" goal by the CCP's centenary in 2021. The CCP will also hold its 20th Party Congress in 2022.

PEOPLE'S LIBERATION ARMY ARMY (PLAA)

Key Takeaways

- The PLAA is the world's largest standing ground force, with approximately 915,000 active-duty personnel in combat units.
- In 2019, the PLAA continued to transition into a more modern, mobile, and lethal ground force through the fielding of upgraded combat systems and the integration of communications equipment and other technologies. The PLAA's modernization seeks to improve its ability to conduct joint operations in a high-intensity conflict and project power abroad.
- In 2019, the PLAA continued to create and mature formations at lower echelons that are more operationally flexible and better suited to conducting and managing complex combined-arms and joint operations.
- In 2019, the PLAA demonstrated a significant increase in training at both the service-level and joint-level and it continued to implement more realistic training methods.

The People's Liberation Army Army (PLAA) is the world's largest standing ground force, with approximately 915,000 active-duty personnel in combat units. The PLAA is the primary ground fighting force for the PLA. The PRC's 2019 defense white paper described the PLAA's tasks as transitioning from "regional defense" to trans-theater operations with an emphasis on improving its capabilities to conduct multi-domain, trans-theater, and sustained operations "so as to build a new type of strong and modernized land force." In 2019, the PLAA continued efforts to transition into a more modern, mobile, and lethal ground force through the fielding of upgraded combat systems and the integration of communications equipment and other technologies, to improve its ability to project power and conduct joint operations in a high-intensity conflict in line with the CCP's modernization goals. Throughout 2019, the PLAA also continued to implement the major PLA-wide structural reforms that began in late 2015 and improving its combat readiness.

Force Structure and Organization. In 2019, the PLAA continued to create and mature formations at lower echelons that are more operationally flexible and better suited to conducting and managing complex combined-arms and joint operations. The PLAA's forces are organized into five Theater Army Commands, the Xinjiang military command, and the Tibet military command. The PLAA has now standardized its 13 group armies (roughly a U.S. corps-level equivalent), which were reduced in number from 18 in 2017 as part of an effort to downsize and streamline the PLAA's force structure. Each group army now includes multiple combined-arms brigades. In total, these 78 combined-arms brigades serve as the PLAA's primary maneuver force. These brigades vary in size and composition.

The PLAA delineates its combined-arms brigades into three types: heavy (tracked armored vehicles), medium (wheeled armored vehicles), and light (high-mobility, mountain, air assault and motorized) and can contain up to 5,000 troops each. Each group army controls six additional brigades responsible for operational element functions: an artillery brigade, an air defense brigade, an army aviation (or air assault) brigade, a special operations forces (SOF) brigade, an engineer and chemical defense brigade, and a sustainment brigade. Although the PLAA has standardized its group armies, it does retain a number of nonstandard independent divisions and brigades that exist outside of the group armies. These units are typically located in areas the CCP considers sensitive including Xinjiang, Tibet, Hong Kong, and Beijing.

The PLAA continues to emphasize the group army-combined-arms brigade-battalion structure to reinforce combat capabilities at the tactical level and improve multi-domain operations. At the brigade and battalion levels, the PLAA reorganized and consolidated its staff structure to refine and synchronize planning and operational support efforts. Combined-arms brigades' subordinate combined-arms battalions have become the PLAA's basic tactical unit for joint operations. The PLAA has staffed and restructured its combined-arms battalions to enable them to conduct operations with greater independence from higher echelons. Combined-arms battalion commanders now have staff officers who assist in the development and implementation of plans and orders in addition to new reconnaissance assets and subordinate support units. Additionally, the variety of combat units at the brigade and battalion level provides the PLAA with greater flexibility to tailor force packages.

Capabilities and Modernization. The PLAA's modernization continues to emphasize vehicle and weapon upgrades in line with the PLA's overall modernization priorities and CMC guidance. The PRC's 2019 defense white paper, however, noted that the PLA "has yet to complete the task of mechanization," implying that completing mechanization by the end of 2020 was unlikely. Western observers have noted that the CCP's mechanization goal pertains primarily to the PLA's ground forces and point to the challenges of modernizing the PLAA given its sheer size. For example, equipment in PLAA infantry units varies and may include a mix of obsolete platforms from the 1960s up to some of the region's most modern and capable platforms. Similarly, PLAA armored units are comprised of a wide range of legacy tanks and modernized third-generation main battle tanks. Despite the PLA's modernization ambitions and its demonstrated ability to develop highly modern equipment for ground forces, the PLAA has faced challenges acquiring and fielding new equipment in sufficient quantities to retire its legacy equipment, although it continues to make progress in this regard.

In parades, state media, and other venues in 2019, the PLAA sought to highlight various types of new and upgraded equipment and vehicles, including small arms, all-terrain vehicles and modern camouflage patterns, to demonstrate the PLAA's commitment and progress towards modernization.

The PLAA also continues to bolster its armor capabilities in heavy combined-arms brigades with the initial fielding of the Type-15 light main battle tank, which can operate in mountainous and soft terrain environments with the firepower of its 105mm main gun. The PLAA's combined-arms brigades continued integrating new communications systems, information warfare platforms and low altitude unmanned aerial vehicles (UAVs) during 2019. The PLAA also fielded the Z-20 medium lift helicopter, which will enhance aviation and air assault brigades' ability to perform rapid air insertion operations, light infantry force projection, and expedited logistics.

Readiness. After two years of focusing on implementing significant force restructuring, the PLAA began shifting its focus toward combined-arms and joint training in 2019. The PLAA increased participation in the STRIDE 2019 series of combined-arms exercises, which involved multiple phases across the Zhurihe, Queshan, Sanjie, and Taonan training areas. More PLAA units participated in STRIDE 2019 exercises compared to the more limited STRIDE 2018. The PLAA continued high utilization of the Zhurihe Joint Training Base to simulate realistic force-on-force, high intensity conflict and to provide a venue to practice ground-to-air integration. Zhurihe Joint Training Base is comparable to the U.S. military's National Training Center at Fort Irwin, California, with a large amount of maneuver space, a dedicated opposing force, and an urban terrain training area.

The PLAA's participation in Russia's national-level military exercise TSENTR-19 in September 2019 indicated a continued prioritization of combined-arms training with regional partners as well as refining its counterterrorism capabilities. Aside from named exercises, the PLAA continued to leverage training simulation technology to include virtual reality scenarios and battalion level simulators to increase training repetitions and improve skills. PLAA units take a systematic approach to training and familiarization when integrating new tactical systems and military equipment into subordinate formations prior to testing them in training exercise scenarios.

Major Ground Units

PEOPLE'S LIBERATION ARMY NAVY (PLAN)

Key Takeaways

- The PRC has numerically the largest navy in the world with an overall battle force of approximately 350 ships and submarines, including more than 130 major surface combatants.
- As of 2019, the PLAN is largely composed of modern multi-role platforms featuring advanced anti-ship, anti-air, and anti-submarine weapons and sensors.
- The PRC commissioned its first domestically built aircraft carrier in late 2019. China expects its second domestically built aircraft carrier to enter service by 2023.
- In 2019, the PRC launched its first Yushen class amphibious assault ship (Type 075 LHA), its first class of large deck amphibious warship.
- In the near-term, the PLAN will have the capability to conduct long-range precision strikes against land targets from its submarine and surface combatants using land-attack cruise missiles, notably enhancing the PRC's global power projection capabilities.

The People's Liberation Army Navy (PLAN) is the largest navy in the world with a battle force of approximately 350 platforms, including major surface combatants, submarines, ocean-going amphibious ships, mine warfare ships, aircraft carriers, and fleet auxiliaries. The PRC's 2019 defense white paper described the PLAN as speeding up the transition of its tasks from "defense on the near seas" to "protection missions on the far seas." The PLAN is an increasingly modern and flexible force that has focused on replacing its previous generations of platforms with limited capabilities in favor of larger, modern multi-role combatants. As of 2019, the PLAN is largely composed of modern multi-role platforms featuring advanced anti-ship, anti-air, and anti-submarine weapons and sensors. This modernization aligns with the PRC's growing emphasis on the maritime domain and increasing demands for the PLAN to operate at greater distances from mainland China.

The PLAN organizes, mans, trains, and equips the PLA's naval and naval aviation forces, as well as the PLA Marine Corps (PLANMC), which is subordinate to the PLAN. In 2019, the PLAN continued to implement structural reforms that began in late 2015 and early 2016. Similar to the other services, the PLA-wide reforms removed the PLAN headquarters from conducting operations, which became the purview of the PLA's joint Theater Commands, and focused it on organizing, manning, training, and equipping naval forces. The PLAN's force structure consists of three fleets with subordinate submarine flotillas, surface ship flotillas, aviation brigades, and naval bases. The PLAN's North Sea

Fleet is subordinate to the Northern Theater Command, the East Sea Fleet is subordinate to the Eastern Theater Command, and the South Sea Fleet is subordinate to the Southern Theater Command.

Submarines. Modernizing the PLAN's submarine force remains a high priority for the PRC. The PLAN currently operates four nuclear-powered ballistic missile submarines (SSBNs) with two additional hulls fitting out, six nuclear-powered attack submarines (SSNs), and 50 diesel-powered attack submarines (SSs). The PLAN will likely maintain between 65 and 70 submarines through the 2020s, replacing older units with more capable units on a near one-to-one basis.

China continues to increase its inventory of conventional submarines capable of firing advanced anti-ship cruise missiles (ASCMs). Since the mid-1990s, the PLAN has purchased 12 Russian-built Kilo class SS units, eight of which are capable of launching ASCMs. During these years, China's shipyards have delivered 13 Song class SS units (Type 039) and 17 Yuan class diesel-electric air-independent-powered attack submarine (SSP) (Type 039A/B). The PRC is expected to produce a total of 25 or more Yuan class submarines by 2025.

Over the past 15 years, the PLAN has constructed twelve nuclear submarines – two Shang I class SSNs (Type 093), four Shang II class SSNs (Type 093A), and six Jin class SSBNs (Type 094), two of which were awaiting entry into service in late 2019. Equipped with the CSS-N-14 (JL-2) submarine-launched ballistic missile (SLBM), the PLAN's four operational Jin class SSBNs represent the PRC's first credible sea-based nuclear deterrent. Each Jin class SSBN can carry up to 12 JL-2 SLBMs. In 2019, these missiles were displayed at the PRC's 70th anniversary parade revealing at least a full complement of 12 JL-2s are complete and operational. China's next-generation Type 096 SSBN, which will likely begin construction in the early-2020s, will reportedly carry a new type of SLBM. The PLAN is expected to operate the Type 094 and Type 096 SSBNs concurrently and could have up to eight SSBNs by 2030. This would align with Chairman Xi Jinping's 2018 directive for the SSBN force to achieve "stronger growth."

By the mid-2020s, China will likely build the Type 093B guided-missile nuclear attack submarine. This new Shang class variant will enhance the PLAN's anti-surface warfare capability and could provide a clandestine land-attack option if equipped with land-attack cruise missiles (LACMs). The PLAN is also improving its anti-submarine warfare capabilities through the development of its surface combatants and special mission aircraft, but it continues to lack a robust deep-water anti-submarine warfare (ASW) capability.

Surface Combatants. The PLAN remains engaged in a robust shipbuilding program for surface combatants, producing new guided-missile cruisers (CGs), guided-missile destroyers (DDGs) and

corvettes (FFLs). These assets will significantly upgrade the PLAN's air defense, anti-ship, and anti-submarine capabilities and will be critical as the PLAN expands its operations beyond the range of the PLA's shore-based air defense systems. In December 2019, China launched the sixth Renhai class cruiser (Type 055) and was set to commission the first hull of the class in early 2020. The Renhai carry a large load out of weapons including ASCMs, surface-to-air missiles (SAMs), and anti-submarine weapons along with likely LACMs and anti-ship ballistic missiles (ASBMs) when those become operational. By the end of 2019, the PRC had launched 23 Luyang III DDGs—including 10 lengthened Luyang III MODs—with 13 of the 23 Luyang III DDGs operational with the PLAN. Both the standard Luyang III and the Luyang III MOD have a 64-cell multipurpose vertical launch system capable of launching cruise missiles, SAMs, and anti-submarine missiles. In 2019, the PLAN commissioned its 30th Jiangkai II class guided-missile frigate (FFG), likely completing the production run while it finalizes a follow-on class. The PLAN is augmenting its littoral warfare capabilities, especially for operations in the East and South China Seas, with high-rate production of the Jiangdao class FFLs (Type 056). By the end of 2019, more than 42 Jiangdao class FFLs had entered service out of an expected production run of at least 70 ships. The latest FFLs are anti-submarine warfare (ASW) variants with a towed-array sonar. The PRC has also built 60 Houbei class wave-piercing catamaran guided-missile patrol boats (Type 022) for operations in China's "near seas."

The PLAN continues to emphasize anti-surface warfare capabilities in its force development. The PLAN's frigates and FFLs, as well as modernized older combatants, carry variants of the YJ-83/YJ-83J ASCM (97 nm, 180 km), while newer surface combatants such as the Luyang II class DDGs are fitted with the YJ-62 (215 nm, 400 km). The Luyang III class DDGs and the Renhai class CGs will be fitted with a variant of China's newest ASCM, the YJ-18A (290 nm, 537 km). A few modernized destroyers have been retrofitted with the supersonic YJ-12A ASCM (250 nm, 285 km). Eight of the PLAN's 12 Kilo class SSs are equipped with the Russian-built SS-N-27 ASCM (120-nm, 222-km). The PRC's Song class SS, Yuan class SSP, and Shang class SSN will field the PLAN's newest domestic submarine-launched YJ-18 and its variants, which constitute an improvement over the SS-N-27 ASCM.

The PLAN recognizes that long-range ASCMs require a robust, over-the-horizon (OTH) targeting capability to realize their full potential. To fill this capability gap, China is investing in reconnaissance, surveillance, command, control, and communications systems at the strategic, operational, and tactical levels to provide high-fidelity targeting information to surface and subsurface launch platforms.

As the PLAN continues to transition into a global multi-mission force, the addition of land-attack capabilities to its modern array of anti-surface and anti-air capabilities is a logical next step. In the coming years, the PLAN will probably field LACMs on its newer cruisers and destroyers and developmental Type 093B nuclear attack submarines. The PLAN could also retrofit its older surface

combatants and submarines with land-attack capabilities as well. The addition of land-attack capabilities to the PLAN's surface combatants and submarines would provide the PLA with flexible long-range strike options. This would allow the PRC to hold land targets at risk beyond the Indo-Pacific region.

Amphibious Warfare Ships. China's investment in LHAs signal its intent to continue to develop its expeditionary warfare capabilities. In 2019, China launched its first Yushen class LHA (Type 075) and a second Yushen class LHA is under construction with additional hulls expected during the 2020s. The Yushen class are highly capable large-deck amphibious ships that will provide the PLAN with an all-aspect expeditionary capability. The Yushen class can carry a large number of landing craft, troops, armored vehicles, and helicopters. In addition, the PLAN has seven large Yuzhao class amphibious transport docks (LPDs) (Type 071), with an eighth ship expected to commission in 2020. The Yuzhao class LPDs and Yushen class LHAs provide the PLA with greater capacity, endurance, and more flexibility for long-range operations than the PLAN's older landing ships, which it has reduced in number over the last decade with obsolete units being decommissioned. The Yushen and Yuzhao can each carry several of the new Yuyi class air-cushion medium landing craft and a variety of helicopters, as well as tanks, armored vehicles and PLAN marines for long-distance deployments.

Aircraft Carriers. In December 2019, the PRC commissioned its first domestically built aircraft carrier, *Shandong*, which launched in 2017 and completed multiple sea trials during 2018-2019. The new carrier is a modified version of the *Liaoning* (Soviet Kuznetsov) design and likewise uses a ski-jump takeoff method for its aircraft. China continued work on its second domestically built aircraft carrier in 2019, which will be larger and fitted with a catapult launch system. This design will enable it to support additional fighter aircraft, fixed-wing early-warning aircraft, and more rapid flight operations and thus extend the reach and effectiveness of its carrier based strike aircraft. The PRC's second domestically built carrier is projected to be operational by 2024, with additional carriers to follow.

Auxiliary Ships. The PLAN continues to build a large number of seagoing auxiliary and support ships, including intelligence collection ships (AGIs), ocean surveillance ships (AGOSs), fleet replenishment oilers (AORs), hospital ships, submarine salvage and rescue ships, and various other specialized units. Additionally, China's first domestically built polar icebreaker, Xuelong 2, became operational in 2019. It is not operated by the PLAN, but rather by the Polar Research Institute of the State Oceanic Administration.

PLA Navy Marine Corps. As the PLAN's land combat arm, the PLA Navy Marine Corps (PLANMC) continues to complete its expansion and focus on expeditionary operations. The PLANMC previously

consisted of two brigades (approximately 10,000 personnel) and was limited in geography and mission to amphibious assault and defense of South China Sea outposts. In 2019, the PLANMC continued to mature an enlarged force structure of eight brigades intended to be scalable and mobile, modernize its capabilities for joint expeditionary operations—including operations beyond the First Island Chain—and become more proficient in conventional and irregular warfare. The PLANMC continues to work towards fully equipping its four newly established maneuver brigades (in addition to its two previously existing brigades), a SOF brigade, and an aviation (helicopter) brigade. Overall, the PLANMC's reform and modernization has proven slower than expected given the CMC's milestone for the PLA to "generally achieve mechanization" by the end of 2020 ahead of the CCP's centenary in 2021.

The PLANMC's roles and missions principally include defending PLA bases in mainland China, the South China Sea and abroad, conducting amphibious operations to seize and defend small reef and island outposts, and conducting non-war military activities (NWMA). Although the PLANMC has traditionally focused on its task to assault and defense of small islands in the South China Sea, more recently its focus has grown to include expeditionary operations beyond the First Island Chain. The PLANMC's roles under NWMA support the PRC's efforts to protect its overseas interests including resources, infrastructure, and citizens abroad.

The PLANMC maintains a presence at the PRC's first overseas military base in Djibouti that extends Beijing's military reach and strategic influence in Africa and the Middle East. The PLANMC's presence in Djibouti provides the PRC with the ability to support a military response to contingencies affecting China's investments and infrastructure in the region and the approximately 1 million PRC citizens in Africa and 500,000 in the Middle East. The PLANMC presence in Djibouti also embarks a contingent of marines with the PLAN's Gulf of Aden counterpiracy-focused naval escort task force that supports China's trade interests. Additionally, the PLANMC supports the PRC's military diplomacy. For example, it has trained with Russian and Thai forces and participated in exchanges with the United States and Australia.

Major Naval Units

Northern Theater Navy
- 1 Aircraft Carrier
- 4 Nuclear-powered Attack Submarines
- 14 Diesel-powered Attack Submarines
- 1 Crusier
- 9 Destroyers
- 12 Frigates
- 10 Corvettes
- 2 Tank Landing Ships
- 5 Medium Landing Ships
- 18 Missile Patrol Craft

Eastern Theater Navy
- 18 Diesel-powered Attack Submarines
- 12 Destroyers
- 23 Frigates
- 19 Corvettes
- 2 Amphibious Transport Docks
- 16 Tank Landing Ships
- 7 Medium Landing Ships
- 46 Missile Patrol Craft

Southern Theater Navy
- 1 Aircraft Carrier
- 4 Nuclear-powered Ballistic Missile Submarines
- 2 Nuclear-powered Attack Submarines
- 14 Diesel-powered Attack Submarines
- 11 Destroyers
- 18 Frigates
- 20 Corvettes
- 4 Amphibious Transport Docks
- 13 Tank Landing Ships
- 9 Medium Landing Ships
- 22 Missile Patrol Craft

0 250 500 Kilometers

Representations of locations are approximate.
Boundary representation is not necessarily authoritative.
Information current as of 01 Jan 2020.

PEOPLE'S LIBERATION ARMY AIR FORCE (PLAAF) AND PLAN AVIATION

Key Takeaways

- The PLAAF and PLAN Aviation together constitute the largest aviation force in the Indo-Pacific region.
- The PLAAF is rapidly catching up to Western air forces. The PLAAF continues to modernize with the delivery of domestically built aircraft and a wide range of UAVs.
- In October 2019, China signaled the return of the airborne leg of its nuclear triad after the PLAAF publicly revealed the H-6N as its first nuclear-capable air-to-air refuelable bomber.

The People's Liberation Army Air Force (PLAAF) and PLAN Aviation together constitute the largest aviation forces in the region and the third largest in the world, with over 2,500 total aircraft (not including trainer variants or UAVs) of which approximately 2,000 are combat aircraft (including fighters, strategic bombers, tactical bombers, multi-mission tactical, and attack aircraft). The PLAAF's role is to serve as a comprehensive strategic air force capable of long-range airpower projection. The PRC's 2019 defense white paper described the PLAAF's missions and tasks as transitioning from territorial air defense to "offensive and defensive operations." In 2017, Lieutenant General Ding Laihang assumed the post of PLAAF commander and exhorted the service to build a truly "strategic" air force capable of projecting airpower at a long range. The PLAAF is rapidly catching up to Western air forces. This trend is gradually eroding longstanding and significant U.S. military technical advantages vis-à-vis the PRC in the air domain.

The CMC's intent is to transform the PLAAF into a more effective and capable force that is proficient at conducting joint operations. The PLAAF is comprised of aviation, airborne, air defense, radar, electronic countermeasure, and communications forces. Amid the wide-ranging reorganization of the PLA, the PLAAF has reorganized into five Theater Command Air Forces, established at least six new air bases, and restructured previously subordinate regiments into brigades under the new bases by disbanding its fighter and fighter-bomber divisions.

Fighters. The PLAAF and PLAN Aviation continue to field greater numbers of fourth-generation aircraft (now more than 800 of 1,500 total operational fighters, not including trainers) and probably will become a majority fourth-generation force within the next several years. For fifth-generation fighters, the PLAAF operationally fielded limited numbers of its new J-20, while development continues on the smaller FC-31/J-31 for export or as a future naval fighter for the PLAN's next class of aircraft carriers. During the PRC's 70th anniversary parade in October 2019, the PLAAF conducted

high-profile flyovers of its J-20, and J-16 and J-10C advanced fourth-generation fighters armed with the latest air-to-air missiles (AAMs). In addition, the PRC has received delivery of all 24 Su-35 advanced fourth-generation fighters it purchased from Russia in 2016. Finally, the PLAAF is preparing upgrades for the J-20, which may include increasing the number of AAMs the fighter can carry in its low-observable configuration, installing thrust-vectoring engine nozzles, and adding super cruise capability by installing higher-thrust indigenous WS-15 engines.

Bombers. China's bomber force is composed of H-6 Badger variants, which are domestically produced versions of the Soviet Tupolev Tu-16 (Badger) bomber. Despite the relative age of its bomber force, China has worked to maintain and enhance the operational effectiveness of these aircraft. In recent years, China has fielded greater numbers of the H-6K, a modernized H-6 variant that integrates standoff weapons and features more-efficient turbofan engines for extended-range. The H-6K can carry six LACMs, giving the PLA a long-range standoff precision strike capability that can range Guam from home airfields in mainland China. PLAN Aviation has traditionally fielded the H-6G to support maritime missions. More recently, PLAN Aviation has begun operating the H-6J, a maritime strike version of the H-6K with six weapons pylons for ASCMs. This aircraft carries six supersonic long-range YJ-12 ASCMs and can attack warships out to the Second Island Chain – significantly extending PLAN Aviation's reach. During the PRC's 70th anniversary parade in 2019, the PLAAF publicly revealed the H-6N, a derivative of the H-6K optimized for long-range strikes. The H-6N features a modified fuselage that allows it to carry externally either a drone or an air-launched ballistic missile (ALBM) that may be nuclear capable. The H-6N's air-to-air refueling capability also provides it greater reach over other H-6 variants that are not refuelable in air. In addition, the PLAAF is seeking to extend its power projection capability with the development of a new stealth strategic bomber. PLAAF leaders publicly announced the program in 2016, however commentators speculate that it may take more than a decade to develop this type of advanced bomber.

Special Mission Aircraft. In 2019, the PLAAF publicly debuted its new Y-9 communications jamming/electronic countermeasures aircraft (known as the GX-11). This aircraft is designed to disrupt an adversary's battlespace awareness at long ranges. The PLA can conduct air-to-air refueling operations to extend the ranges of its fighter and bomber aircraft equipped with refueling probes using the H-6U, a modified tanker variant of the H-6 bomber, as well as a small number of larger IL-78 Midas purchased from Ukraine. In addition, China is developing a tanker variant of its Y-20 heavy-lift transport, which will enable the PLAAF to expand its tanker fleet and improve the PLAAF's ability to operate beyond the First Island Chain from bases in mainland China.

Production and deliveries of the KJ-500—China's most advanced airborne early warning and control (AEW&C) aircraft—continued at a rapid pace, joining earlier KJ-2000 Mainring and KJ-200 Moth

variants. These aircraft amplify PLAAF's ability to detect, track, and target threats in varying conditions, in larger volumes, and at greater distances. These aircraft also help to extend the range of the PRC's integrated air defense system (IADS) network. Furthermore, China has produced at least one KJ-500 with an aerial refueling probe, which will improve the aircraft's ability to provide persistent AEW&C coverage.

China's aviation industry continues to advance with deliveries of its domestic Y-20 large transport aircraft and completion of the world's largest seaplane, the AG600. Both aircraft made debut appearances at the Zhuhai Air Show in November 2016. These new transports will supplement and eventually replace China's small fleet of strategic airlift assets, which to date, consists of a limited number of Russian-made IL-76 aircraft. These large transports are intended to support airborne C2, logistics, paradrop, aerial refueling, and strategic reconnaissance operations as well as HA/DR missions.

Unmanned Aerial Vehicles (UAVs). The PRC displayed its largest ever suite of UAV aircraft at the Zhuhai Air Show in November 2018. In addition to displays of armed-capable reconnaissance UAVs such as the Yunying, Caihong CH-4 and CH-5, and Yilong (Wing Loong) series of aircraft, there were multiple of displays of low-observable flying-wing aircraft such as the CH-7, Tianying, and Yaoying-III to complement earlier flying wing UAVs such as the Anjian and Lijian. The Tengden Company also displayed armed UAVs, such as the TW328, as well as a large dual-engine TW356 transport UAV that suspends a large cargo pod between the two large engine nacelles. China has begun deploying its Xianglong joined-wing high altitude reconnaissance UAV to airfields in Western China and to Hainan Island. China is continuing to develop the Shendiao and upgrade the BZK-005 Changying to a larger and longer enduring aircraft. During the PRC's 70th anniversary parade, the PLA displayed several advanced unmanned aerial systems such as the rocket-powered, high-speed Wuzhen-8 and the Gongji-11 stealth unmanned combat aerial vehicle.

Air and Missile Defense. The PLAAF possesses one of the largest forces of advanced long-range SAM systems in the world, composed of Russian-sourced SA-20 (S-300) battalions and domestically produced CSA-9 (HQ-9) battalions. To improve its strategic long-range air defenses, the PRC has contracted with Russia to acquire the SA-21 (S-400) SAM system and is developing the CSA-21 (HQ-9B) as follow-ons to its SA-20s and CSA-9s. The PLAAF conducted its first SA-21 test fires in December 2018. The PRC is also developing its indigenous CH-AB-X-02 (HQ-19), which will likely have a ballistic missile defense (BMD) capability. China is also developing kinetic-kill vehicle technology to field a mid-course interceptor, which will form the upper layer of a multi-tiered missile defense.

Airborne. The PLAAF Airborne Corps comprises up to six airborne combined-arms brigades (to include an air assault combined-arms brigade), a SOF brigade, a service support brigade, and an air transport brigade. At least one of the airborne combined-arms brigades is mechanized with air-droppable tracked ZBD03 infantry fighting vehicles. In 2019, the airborne brigades continued integration and parachute and heavy drop training, while the air assault brigade emphasized air landing operations, rapid force projection, and integration into airborne operations. In summer 2019, elements from one of the PLAAF Airborne Corps brigades participated in Russia's TSENTR-2019 exercise, conducting combined airborne operations including parachute drops and airborne landing operations with Russian troops. Additionally, China held a seminar in Beijing focused on airborne integration into joint operations and improving airborne training.

Major Aviation Units

PEOPLE'S LIBERATION ARMY ROCKET FORCE (PLARF)

Key Takeaways

- In 2019, the PLARF advanced long-term modernization plans to enhance its "strategic deterrence."
- In 2019, the PRC launched more ballistic missiles for testing and training than the rest of the world combined.
- The PLARF continues to grow its inventories of DF-26 intermediate-range ballistic missiles (IRBMs) which is capable of conducting both conventional and nuclear precision strikes against ground targets as well as conventional strikes against naval targets.
- The PRC is developing new intercontinental ballistic missiles (ICBMs) that will significantly improve its nuclear-capable missile forces and will require increased nuclear warhead production, partially due to the introduction of multiple independently targetable reentry vehicle (MIRV) capabilities.
- The number of warheads on the PRC's land-based ICBMs capable of threatening the United States is expected to grow to roughly 200 in the next five years.

The PLA Rocket Force (PLARF) organizes, mans, trains, and equips the PRC's strategic land-based nuclear and conventional missile forces and associated support forces and missile bases. The PLARF is a critical component of the PRC's nuclear deterrence strategy to deter and counter third-party intervention in regional conflicts. The PLARF, previously known as the PLA Second Artillery Force, was elevated to the status of a full service alongside the PLAA, PLAN, and PLAAF and renamed as part of the sweeping PLA reforms initiated in late 2015. According to the PRC's 2019 defense white paper, the PLARF is working towards "enhancing its credible and reliable capabilities of nuclear deterrence and counterattack, strengthening intermediate and long-range precision strike forces, and enhancing strategic counter-balance capability, so as to build a strong and modernized rocket force." In 2019, the PLARF's participation in the PRC's 70th anniversary military parade was designed to show its progress towards goals first publicized by Chairman Xi Jinping in 2016 and 2017 to "achieve a great rise in strategic capabilities" and accelerating the PLARF's pace of development and making enhanced "breakthroughs…in strategic deterrence capability."

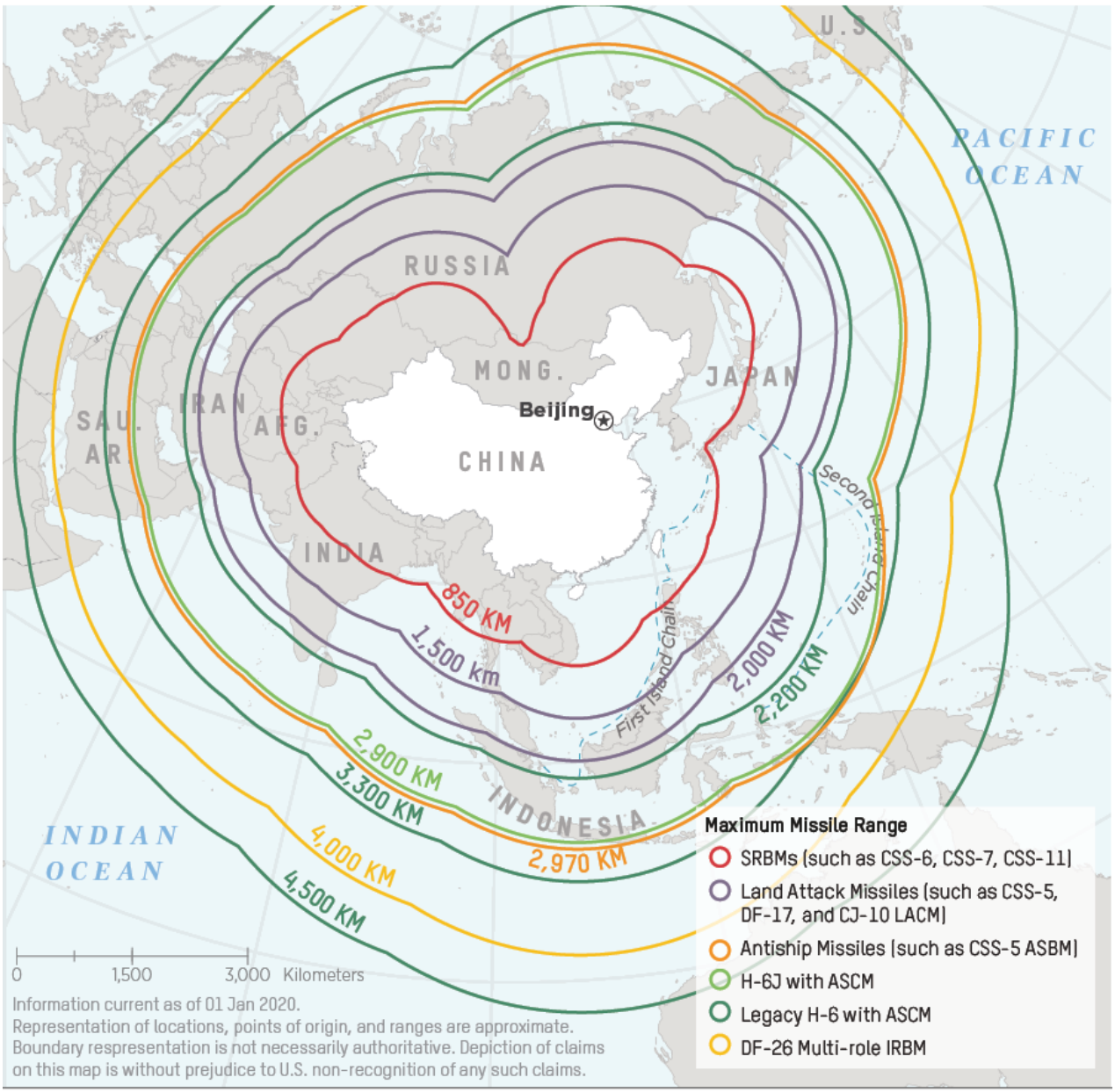
The PLARF fields a variety of conventional mobile ground-launched short-, medium-, and intermediate-range ballistic missiles and ground-launched cruise missiles. The PLARF's ground-based missile forces compliment the air and sea-based precision strike capabilities of the PLAAF and PLAN. The PLARF's conventional missile forces includes the CSS-6 (DF-15) short-range ballistic missile

(SRBM) (range 725-850 km); the CSS-7 (DF-11) SRBM (600 km); the CSS-11 (DF-16) SRBM (more than 700 km); land-attack and anti-ship variants of the CSS-5 (DF-21) medium-range ballistic missile (MRBM) (approximately 1,500 km); the DF-26 IRBM (approximately 4,000 km); and the CJ-10 (DH-10) ground-launched cruise missile (GLCM) (approximately 1,500 km). The PLARF's conventionally armed CSS-5 Mod 5 (DF-21D) ASBM variant gives the PLA the capability to conduct long-range precision strikes against ships, including aircraft carriers, out to the Western Pacific from mainland China. The DF-21D has a range exceeding 1,500 km, is fitted with a maneuverable reentry vehicle (MARV) warhead, and is claimed to be capable of rapidly reloading in the field. The PLARF continues to grow its inventories of DF-26 IRBM, which it first revealed in 2015 and fielded in 2016. The multi-role DF-26 is designed to rapidly swap conventional and nuclear warheads and is capable of conducting precision strikes in the Western Pacific, the Indian Ocean, and the South China Sea from mainland China.

The PLARF is developing and testing several new variants of theater-range missiles and developing capabilities and methods to counter adversary BMD systems. In 2019, the PRC launched more ballistic missiles for testing and training than the rest of the world combined. China has placed a heavy emphasis on developing and testing hypersonic glide vehicles. In August 2018, China successfully tested the XINGKONG-2 (Starry Sky-2), which it publicly described as a hypersonic waverider vehicle. The PLARF also paraded the DF-17 missile for the first time as part of the PRC's 70th anniversary parade in 2019.

The PLARF is developing ICBMs that will significantly improve its nuclear-capable missile forces with more survivable delivery systems and will require increased nuclear warhead production, partially due to the introduction of MIRV capabilities. The number of warheads on land-based PRC ICBMs capable of threatening the United States is expected to grow to roughly 200 in the next five years. China's fixed ICBM arsenal consists of 100 ICBMs, including the shorter range CSS-3 (DF-4) as well as the silo-based CSS-4 Mod 2 (DF-5A) and MIRV-equipped Mod 3 (DF-5B) which is capable of carrying up to five MIRVs. Chinese media suggests a follow-on DF-5C may be in development. The solid-fueled, road-mobile CSS-10 class missiles complement this force. The CSS-10 Mod 2 (DF-31A), with a range in excess of 11,200 km, can reach most locations within the continental United States. Chinese media reports suggest a DF-31B might also be in development. Development of the CSS-X-20 (DF-41), a new MIRV-capable, road-mobile ICBM, continued in 2019, and the PRC paraded at least 16 road-mobile DF-41 launchers during the 2019 parade that Beijing said belonged to two PLARF brigades. China appears to be considering additional DF-41 launch options, including rail-mobile and silo basing.

Conventional Strike Capabilities



Nuclear Ballistic Missiles

Conventional Precision Strike

Short-Range Ballistic Missiles (300-1,000 km). The PLARF has approximately 200 SRBM launchers and over 600 SRBMs. These missile systems include advanced variants with improved ranges and accuracy as well as more sophisticated payloads; earlier generations are being phased out and replaced by variants with true precision strike capability.

Medium-Range Ballistic Missiles (1,000-3,000 km). The PLA fields approximately 150 conventional MRBMs launchers and more than 150 missiles which increase the range at which it can conduct precision strikes against land targets and naval ships operating out to the First Island Chain.

Intermediate-Range Ballistic Missiles (3,000-5,500 km). The PLA's DF-26 is a road-mobile, nuclear and conventional capable IRBM that is able to conduct near-precision strikes as far away from China as Guam in the Second Island Chain. The PLA has fielded approximately 200 IRBM launchers and more than 200 missiles. In conjunction with reconnaissance satellites, the PLAN's expanding network of sky wave and surface wave over-the-horizon (OTH) systems provide warning and targeting capabilities at extended distances from China to support long-range precision strikes, including employment of ASBMs.

Land-Attack Cruise Missiles. The PLA fields approximately 100 ground-launched LACMs launchers and more than 300 missiles for standoff precision strikes. The PLA continues to develop additional LACM-variants for deployment with the PLAN and PLAAF.

Anti-ship Cruise Missiles. China deploys a wide range of advanced ASCMs, with the YJ-83 family of missiles the most numerous, and equipping the majority of China's ships as well as multiple aircraft. China has also outfitted several ships with YJ-62 ASCMs. The YJ-18 is a long range, torpedo tube launched ASCM with a supersonic terminal sprint. It has likely replaced the older YJ-82 on Song, Yuan, and Shang class submarines. China claims its new Luyang III class DDGs and Renhai CGs have a vertically launched variant of the YJ-18. China has also developed the long range supersonic YJ-12 ASCM for the H-6 bomber. At a 2018 exhibition, China displayed a ship-to-ship variant of the YJ-12 called the YJ-12A and the ground launched anti-ship variant YJ-12B. China has deployed the YJ-12B to several outposts in the South China Sea. China carries the Russian SS-N-22 SUNBURN on two Russian-built Sovremenny class DDGs. Upgrades to two of the Sovremenny DDGs (Hulls 136 and 137) allow them to fire the YJ-12A. China also employs the Russian SS-N-27b SIZZLER on eight Russian built Kilo class submarines.

Ground Attack Munitions. The PLAAF has a small number of tactical air-to-surface missiles (ASMs) as well as precision munitions; guidance options include satellite positioning, laser, electro-optic, and

imaging infrared. China is developing or adapting a range of smaller ASMs and guided bombs for use on its expanding fleet of armed UAVs.

Anti-Radiation Weapons. The PLA imported Israeli-made Harpy UAVs and Russian-made anti-radiation missiles during the 1990s. China is integrating the YJ-91, an indigenous version of the Russian Kh-31P (AS-17), into its fighter-bomber force and advertising the ASN-301 anti-radiation drone, an improved domestic variant of the Harpy.

Artillery-Delivered High Precision Munitions. The PLA is fielding long-range rocket artillery systems with the range to strike targets within or even across the Taiwan Strait. The most common of these systems is the PHL-03 12x300 mm multiple-rocket launcher – similar to the Russian 9A52-2

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STRATEGIC SUPPORT FORCE (SSF)

Key Takeaways

- The PLA Strategic Support Forces (SSF) is a theater command-level organization established to centralize the PLA's strategic space, cyber, electronic, and psychological warfare missions and capabilities.
- The SSF's Network Systems Department is responsible for information warfare with a mission set that includes cyberwarfare, technical reconnaissance, electronic warfare, and psychological warfare. Its current major target is the United States.
- The PRC's 2019 defense white paper described space as a "critical domain in international strategic competition" and stated the security of space provided strategic assurance to the country's national and social development.
- The PRC's space enterprise continues to mature rapidly. Beijing has devoted significant resources to growing all aspects of its space program, from military space applications to civil applications such as profit-generating launches, scientific endeavors, and space exploration.

As part of its efforts to restructure the PLA for modern warfare, the CMC established the PLA Strategic Support Force (SSF) in 2016 as a theater command-level organization to centralize the PLA's strategic space, cyber, electronic, and psychological warfare missions and capabilities. The SSF's creation highlights the PRC's understanding of information as a strategic resource in modern warfare. Among the impetuses for the SSF's establishment was the PLA's apparent concern about the disparity between its cyber capabilities and those of the United States and the view of China's leaders that achieving information dominance and denying adversaries the use of the electromagnetic spectrum is necessary to seize and maintain the strategic initiative in a conflict. The SSF was formed from organizations formerly subordinate to the PLA services and the CMC's General Staff Department (GSD) with the goal of creating operational synergies between formerly disparate information warfare capabilities to enable the information dominance that the PRC views will be decisive in future wars. The SSF reports directly to the CMC and supports the entire PLA with its capabilities. The PRC's 2019 defense white paper described the SSF's modernization goals as "seeking to achieve big development strides in key areas and accelerate the integrated development of new-type combat forces, so as to build a strong and modernized strategic support force."

The SSF oversees two deputy theater command-level departments: the Space Systems Department responsible for military space operations, and the Network Systems Department responsible for

information operations (IO), which includes EW, cyber warfare, and psychological operations. At the headquarters level, the SSF has a four-department administrative structure that includes the Staff, Equipment, Political Work, and Logistics Departments. As a strategic organization, the SSF reports directly to the CMC and not to the theater commands. Through its Space Systems Department and Network Systems Department, the SSF provides information support derived from space-based and cyber-based means to all PLA services and the five theater commands. The SFF may be the PRC's first step in the development of a cyber force by centralizing the PLA's previously disparate cyber reconnaissance, cyberattack, and cyber defense capabilities and units into one organization.

In March 2019, General Li Fengbiao replaced General Gao Jin as the SSF commander. Lt. Gen. Shang Hong and Lt. Gen Ju Qiansheng are the commanders of the Space Systems and Network Systems Departments, respectively. Throughout 2019, the SSF participated in joint exercises and training throughout China, including a possible high-level and large-scale joint exercise in the waters and airspace off China's southeastern coast. During 2019, SSF units also exercised establishing command posts and provided joint communications training to the theater commands.

Network Systems Department. The SSF Network Systems Department is responsible for information warfare with a mission set that includes cyberwarfare, technical reconnaissance, EW, and psychological warfare. By placing these missions under the same organizational umbrella, the Party seeks to remedy the operational coordination challenges that hindered information sharing under the PLA's pre-reform organizational structure. The integration of cyber and EW elements under one organization is a crucial step towards realizing the operational concept of integrated network and electronic warfare that the PLA has envisioned since the early 2000s. The Network Systems Department operates five theater designated technical reconnaissance bases, most of the former GSD Third Department's (3PLA's) numbered bureaus, the former GSD 56th, 57th, and 58th Research Institutes, and elements of the GSD Fourth Department (4PLA). The Network Systems Department's current major target is the United States. The Network Systems Department also provides intelligence support to the theater commands' regional focuses.

- ***The SFF and the "Three Warfares" Concept***: The former General Political Department's 311 Base, which now falls under the SFF Network Systems Department, performs missions and tasks associated with the PLA's concept of "Three Warfares" which comprises psychological warfare, public opinion warfare, and legal warfare. This base is the only publicly known organization in the PLA that performs psychological warfare operations. The PLA's psychological warfare mission is to shape international public narratives, weaken the enemy's will, shape diplomatic and political narratives, and advance the PRC's interests through all phases of conflict.

Space Systems Department. The SSF Space Systems Department is responsible for nearly all PLA space operations, including: space launch and support; space surveillance; space information support; space telemetry, tracking, and control; and space warfare. The Space Systems Department seeks to resolve the bureaucratic struggles that existed over the PLA space mission, as elements of the mission were previously dispersed across several national and service-subordinate organizations. The PRC officially designated space as a new domain of warfare in its 2015 defense white paper, and expects space to play an important role in future conflicts by enabling long-range precision strikes and in denying other militaries the use of overhead command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) systems. The Space System Department operates at least eight bases, including those whose core missions are the launch, tracking R&D, and operation of the satellites vital to China's overhead C4ISR architecture. The SSF runs tracking, telemetry, and command stations in Namibia, Pakistan, and Argentina. The SSF also has a handful of Yuan Wang space support ships to track satellite and intercontinental ballistic missile (ICBM) launches.

SSF Research and Development. The SSF operates several subordinate academic and research institutions including the Information Engineering University, Space Engineering University, and the former GSD 56th and 57th Research Institutes. These institutions offer programs in space based surveillance, intelligence, weapon launch and early warning, communications and information engineering, cryptology, big data, and information attack and defense technology.

Space and Counterspace Capabilities. The PRC's space enterprise continues to mature rapidly. Beijing has devoted significant economic and political resources to growing all aspects of its space program, from military space applications to civil applications such as profit-generating launches, scientific endeavors, and space exploration. The PRC's space enterprise not only includes the SSF but also encompasses other military, government, and civilian organizations, including state-owned enterprises, academic institutions, and commercial entities. The PLA has historically managed the PRC's space program and the SSF Space Systems Department is responsible for nearly all PLA space operations. The PRC continues to strengthen its military space capabilities, despite its public stance against the weaponization of space. The PLA continues to invest in improving its capabilities in space-based intelligence, surveillance, and reconnaissance (ISR), satellite communication, satellite navigation, and meteorology, as well as human spaceflight and robotic space exploration. China plans to have a permanently operating space station by 2022 that will host its own and foreign payloads and astronauts. China has built an expansive ground support infrastructure to support its growing on-orbit fleet and related functions including spacecraft and space launch vehicle (SLV) manufacture, launch, C2, and data downlink. Additionally, the PRC continues to develop counterspace capabilities—

including direct ascent, co-orbital, electronic warfare, and directed energy capabilities—that can contest or deny an adversary's access to and operations in the space domain during a crisis or conflict.

In 2019, China launched 34 SLVs (of which 32 were successful) that placed more than 70 spacecraft into orbit including navigation, ISR, and test/engineering satellites, as well as satellites for foreign customers. Key developments in 2019 include:

- *Advancing Space Launch and Access to Space.* In 2019, the PRC continued to develop its space launch capabilities, providing cost-savings through efficiency and reliability, extending their reach into multiple Earth orbits, and improving their capability to rapidly reconstitute space capabilities in low Earth orbit. In December 2019, China launched the Long March-5 (LM-5) heavy lift vehicle as part of its return to flight. China plans to use this launch vehicle for lunar and interplanetary exploration missions in 2020 and use a variant, the LM-5B, to launch the core module of its space station for completion and use by 2022. In June 2019, China performed its first seaborne launch using its LM-11 solid-propellant vehicle. China also successfully launched an updated LM-2C with grid fins on its core stage in July 2019, providing greater landing precision of rocket debris and lowering the risk of collateral damage when falling over China. Additionally, two new launch vehicles were successful in their maiden flights: Hyperbola-1—built by the private firm iSpace—and Smart Dragon-1—built by ChinaRocket, a subsidiary of China Academy of Launch Vehicle Technology. LinkSpace, another private firm, completed suborbital tests of reusable rocket technology for its future NewLine-1 reusable launch vehicle, which is expected in 2021. Finally, state-owned commercial company Expace conducted two orbital missions using Kuaizhou-1A light-lift vehicles from the Taiyuan Satellite Launch Center within six hours of one another.

- *Strengthening Satellite Navigation:* Augmenting its regional BeiDou-2 satellite navigation system, the PRC moved closer to achieving global service capabilities through its BeiDou-3 constellation with the launching of nine additional BeiDou-3 satellites in 2019. China also launched one BeiDou-2 satellite in 2019 bringing the combined total of operational BeiDou-2 and BeiDou-3 satellites to 44. By mid-2020, China plans for the BeiDou-3 worldwide constellation to be at full operating capability with 30 satellites, providing mass communication capabilities to its users and additional command and control for the PLA, reducing or removing China's dependence on U.S. GPS. New BeiDou satellites are equipped with radiofrequency inter-satellite links, new atomic clocks, and other advanced technologies. Additionally, China plans to offer satellite-based augmentation services, a worldwide short message service, and internationally recognized search and rescue capabilities.

- *Continuing Lunar Exploration:* In January 2019, China became the first country to soft land a probe on the far side of the Moon with its Chang'e-4 lunar lander. Shortly after reaching the surface, the lander deployed China's second lunar rover, Yutu-2. In May, Yutu-2 completed its primary objective of characterizing materials from the Moon's largest far side crater. Building on these missions, China plans to conduct a lunar sample return mission in the late 2020s, construct a lunar research station around 2025, and establish a crewed lunar research and development base around 2050.

- *Enhancing Data Relay:* China launched the first of its second-generation Tianlian-2 data relay satellites in March. Once complete, the Tianlian-2 satellite will reportedly provide faster data transmission and greater connectivity between ground control stations and spacecraft in low Earth orbit. China could also use the Tianlian-2 satellite constellation to maintain communications with future human spaceflight missions, including its planned space station.

The PLA continues to acquire and develop a range of counterspace capabilities and related technologies, including kinetic-kill missiles, ground-based lasers, and orbiting space robots, as well as expanding space surveillance capabilities, which can monitor objects in space within their field of view and enable counterspace actions. As of May 2018, the PRC's reconnaissance and remote sensing fleet consisted of more than 120 satellites designed to collect data for civil, commercial, or military owners and operators. Reportedly, the PLA owns and operates approximately half of these systems, most of which could support situational awareness of regional rivals and potential flashpoints, while monitoring, tracking, and targeting an adversary's forces. In concert with its marked improvements in satellite navigation, launch capabilities, and space object surveillance and identification, the PRC is developing electronic warfare capabilities such as satellite jammers; offensive cyber capabilities; and directed-energy weapons. Moreover, China has demonstrated sophisticated, potentially damaging on-orbit behavior with space-based technologies. China has an operational ground-based Anti-Satellite (ASAT) missile intended to target low-Earth orbit satellites, and China probably intends to pursue additional ASAT weapons capable of destroying satellites up to geosynchronous Earth orbit. China is employing more sophisticated satellite operations and is probably testing dual-use technologies in space that could be applied to counterspace missions.

Although the PRC has not publicly acknowledged the existence of any new programs since it confirmed it used an ASAT missile to destroy a weather satellite in 2007, the PLA's defense academics often publish on counterspace threat technologies. These scholars stress the necessity of "destroying, damaging, and interfering with the enemy's reconnaissance...and communications satellites," suggesting that such systems, as well as navigation and early warning satellites, could be among the targets of attacks designed to "blind and deafen the enemy."

JOINT LOGISTIC SUPPORT FORCE (JLSF)

Key Takeaways

- The JLSF is establishing support relationships between joint logistic units and other PLA service logistics elements and integrating civilian logistics into military operations.
- The PLA leverages a variety of means and arrangements to use civilian transport resources to move military personnel and equipment more rapidly.

The PLA Joint Logistic Support Force (JLSF) provides integrated joint logistics support for the PLA. Established in 2016, the JLSF intends to be the "backbone" of the PLA's logistics system. The JLSF's development is central to the PRC's efforts to build a joint, lean and efficient "combat-oriented modern logistics system," which Beijing views as essential for modern warfare. The JLSF works to streamline the PLA's joint strategic- and campaign-level logistics by overseeing theater-wide supply operations, establishing and coordinating support relationships among the PLA services' logistics elements, conducting joint logistics exercises with the PLA services, and integrating civilian logistics resources into military operations. In 2019, the JLSF conducted exercises of various size, scope, and complexity that aimed to improve the PLA's ability to conduct joint operations. In 2019, the JLSF troops made their first public debut at the PRC's 70th anniversary parade and the First Party Congress of the JLSF defined its development plans for the next five years. According to the PRC's 2019 defense white paper, the JLSF is "being integrated into the joint operations system to enhance the capabilities of integrated joint logistics, so as to build a strong and modernized joint logistic support force."

Headquartered at the Wuhan Joint Logistics Support Base, the JLSF has force elements for inventory and warehousing, medical services, transport, force projection, oil pipelines, engineering and construction management, reserve equipment, and procurement support. The JLSF provides the PLA with joint strategic- and campaign-level logistics, enabling the PLA to conduct large-scale operations. The JLSF has five subordinate Joint Logistics Service Centers (JLSCs) aligned with the five theater commands that are intend to streamline the PLA's logistics support. During peacetime, the JLSF controls the JLSCs' operations and activities; during wartime, each theater command assumes control of their designated JLSC.

In 2019, the JLSF focused on increasing mobile support speed and exploring new joint training and support opportunities. In the Northern Theater Command, a Shenyang JLSC-subordinate logistic support brigade rapidly delivered fuel and other needed supplies to forward-deployed PLAA elements during a field exercise. A field hospital based in the Eastern Theater Command conducted a cross-

theater, long-distance mobility exercise to a medical training base in Xi'an, located in the Central Theater Command, supported by the PLAAF Military Medical University.

The PLA leverages a variety of means and arrangements to use civilian transport resources to move military personnel and equipment more rapidly. In 2019, the JLSF routinely integrated civilian logistics resources and equipment into military operations and exercises. During a 2019 exercise, Zhengzhou JLSC in the Central Theater Command employed civil air transport to move military personnel and equipment more rapidly, reducing its reliance on rail transport. Also in 2019, the Shenyang JLSC coordinated the movement of soldiers and equipment across Bohai Bay using a civilian roll-on/roll-off ship. JOINT LOGISTIC FORCE 2018B, a Central Theater Command exercise held in late 2018, featured 37 joint military and civilian teams from five provinces and two municipalities operating together to set up refueling stations, medical service centers, maintenance centers, and catering services. This PLA Zhengzhou JLSC organized exercise was a joint service support exercise that featured civilian-military logistics integration and PLAAF participation.

MILITARY READINESS

Key Takeaways

- In recent years, the CMC has directed the PLA to improve its combat readiness. This guidance is increasingly evident in the intensity of the PLA's training and the complexity and scale of its exercises.
- The PLA is training to "fight and win" through increasingly realistic combat training that uses dedicated "blue force" opponents and other elements to improve realism.
- In 2019, the PLA conducted a nation-wide exercise across all five-theater commands that included all four services, the SSF, and the JLSF.

In recent years, the CMC has directed the PLA to improve its combat readiness. This guidance is increasingly evident in the intensity of the PLA's training and the complexity and scale of its exercises. In 2019, the PLA continued to focus its annual training cycle on building readiness through increasingly larger-scale and complex joint exercises, service-level exercises, numerous mission-oriented force-on-force exercises, live-fire exercises, and skills-based competition exercises. Notable is the PLA's focus on increasingly realistic combat training using dedicated "blue force" opponents to improve realism, training simulation technology, and enacting efforts to strengthen and evaluate commanders' ability to conduct joint operations.

In 2019, the PLA conducted a nation-wide exercise across all five-theater commands that included all four services, the SSF, and the JLSF. Led by the CMC's Joint Operational Command Center, the exercises sought to test joint coordinated operations of all five military commands and took place at multiple locations near Taiwan. The exercise could have been simulating a Taiwan or a Senkaku contingency.

In 2019, the PLAA conducted training and evaluations of nearly 200 corps-grade commanders, building upon the testing of the 13 group army commanders in 2018. The PLAA conducted the annual STRIDE and FIREPOWER exercises in 2019 across multiple theaters with elements of combined-arms brigades represented conducting confrontation drills against dedicated opposing forces. The PLAA conducted its annual STRIDE exercise in multiple iterations and focused on evaluating offensive and defense combat capabilities of heavy combined-arms brigades. FIREPOWER continued the series' focus on artillery skills during opposing forces operations, with 2019 iteration notably including elements of an artillery brigade from the PLA Tibet Military District.

As part of its wider series of Ingenious Soldier-2019 exercises, the PLAA also conducted a cyber-simulation exercise, Ingenious Cyber-Electromagnetic Soldier-2019 with approximately 200 troops at a Central Theater Command training base. The exercise indicates the emphasis the PLA has on electronic countermeasures as an operational force in winning wars under informatized conditions.

The PLAN conducted significant training events throughout 2019 and marked the PLAN's 70th anniversary in April 2019 with an international fleet review and naval parade in Qingdao and in the Yellow Sea. The PLAN displayed more than 32 warships, including the lead ship of its new Renhai class guided missile destroyers, its first aircraft carrier—the *Liaoning*—submarines, destroyers, and fighter jets. Nearly 20 foreign vessels from approximately a dozen countries including Russia took part in the review. The PRC probably sought to leverage the fleet review to portray its navy as dedicated to building a maritime community with a shared future by enhancing cooperation, though participating navies' receptivity was uneven. The PLANMC participated in a maritime amphibious assault exercise this year off China's southeastern coast. The exercise incorporated PLANMC amphibious armored vehicles and probably tested incorporating the PLANMC in joint operations.

The PLAAF continues to bolster its readiness and competencies through four key annual training exercises and competitions: RED SWORD, BLUE SHIELD, GOLDEN DART, and GOLDEN HELMET. The primary focus of these activities is to prepare for combat under by training under realistic conditions that introduce uncertainty, such as a complex electromagnetic environment. In 2019, the PLAAF continued its service-level RED SWORD exercise with the focus on systems-on-systems confrontation. RED SWORD also incorporated the live-fire of air defense systems operating

in a degraded electromagnetic environment. The GOLDEN DART exercise incorporated assault fighter and bomber tactical drills on a mockup of an integrated air defense system, which included blue force ground-to-air missiles and surveillance radars. The PLAAF also continues to deploy advanced combat aircraft to train in bilateral and multilateral exercises. In 2019, the PLAAF sent two H-6K bombers to participate in Russia's TSENTR exercise.

The PLARF continued its annual HEAVEN'S SWORD series of exercises in 2019 to focus on preparations for realistic combat training for commanders and troops and to enhance the high state of readiness for combat forces. In 2019, the exercise featured the nighttime transfer of missiles, moving to different launch positions, and a "blue force" confrontation drill.

The SSF conducted a field command post exercise in July 2019 to test troops' familiarity with equipment and refine battlefield communications capabilities in complex terrain environments. In 2019, field hospital teams from JLSF and PLAA hospitals participated in Medical Logistics Forces 2019A and 2019B cross-theater base rotation exercises. In the exercise series, field medical teams practiced maneuvering to medical training bases, overseen by PLAA and PLAAF military medical universities. Each iteration was the first time the participating medical teams conducted a cross-theater mobilization to exercise field medical support capabilities.

INCREASING INTEROPERABILITY WITH PARAMILITARY AND MILITIA

Key Takeaway

> Interoperability and integration between the PLA and the PRC's paramilitary forces continues to grow in scale and sophistication, including the coordination between the PLAN, the CCG, and the People's Armed Forces Maritime Militia (PAFMM).

People's Armed Police (PAP). The PAP is a paramilitary police component of the PRC's armed forces and an armed wing of the CCP. Its primary missions include internal security, maritime security, and assisting the PLA in times of war. In early 2018, the CMC assumed direct control of the PAP after the CCP ended the previous CMC-State Council dual-command system. As part of this reform, the PAP also assumed control of the China Coast Guard (CCG) in July 2018 from the PRC's State Oceanic Administration. In addition to these changes, the PAP has undergone a comprehensive reorganization and shed missions and some specialized forces for border defense, firefighting, natural resource protection (forests, gold mines, and hydropower), allowing the PAP to focus more on internal security. The PAP is comprised principally of the Mobile Corps, the Internal Security Corps, and the CCG. The Mobile Corps is comprised of two large mobile contingents at the national level without fixed geographic areas of responsibility. The Internal Security Corps covers each of the PRC's provinces,

autonomous regions, and centrally administered cities. Each province has at least one PAP contingent focused on rapid response to internal security threats at the provincial and local level. In 2019, the PAP announced the establishment of a new special operations counterterrorism unit called the Mountain Eagle Commando Unit, based in the Xinjiang Uyghur Autonomous Region to support the CCP's growing counterterrorism efforts. Unlike the PAP's two other commando units, the Snow Leopard Unit and the Falcon Unit, the Mountain Eagle Unit is reportedly designed to operate in more austere terrain environments characterized by mountains and plateaus as opposed to urban warfare.

In 2018, Chairman Xi Jinping tasked the PAP to improve "combat-ready training" and rapidly integrate into the PLA's joint operation system. The PAP is increasingly focusing on internal security and joint operations with the PLA and is developing capabilities for rapid response, mobility, and counterterrorism operations. In addition, the PAP conducts training with foreign counterparts. Since at least 2016, PAP forces have likely operated in Tajikistan, patrolling the tri-border region connecting Tajikistan, Afghanistan, and China. In 2019, the PAP hosted joint counterterrorism training in China and in Uzbekistan and Kyrgyzstan.

China's Coercive Approach

China's leaders use tactics short of armed conflict to pursue China's objectives. China calibrates its coercive activities to fall below the threshold of provoking armed conflict with the United States, its allies and partners, or others in the Indo-Pacific region. These tactics are particularly evident in China's pursuit of its territorial and maritime claims in the South and East China Seas as well as along its border with India and Bhutan.[1] In recent years, the PLA has also increased patrols around and near Taiwan using bomber, fighter, and surveillance aircraft to signal Taiwan. China also employs non-military tools coercively, including economic tools during periods of political tensions with countries that China accuses of harming its national interests.

China Coast Guard (CCG). The CCG is subordinate to the PAP and is responsible for a wide range of missions under the umbrella of maritime rights protection, including enforcement of the PRC's sovereignty claims, surveillance, protection of fisheries' resources, anti-smuggling, and general law enforcement. In July 2018, the CCG completed its merger into the CMC command structure through its subordination to the PAP, which itself is under the CMC like the PLA. This could facilitate closer coordination between the CCG and the PLAN. The PRC primarily uses paramilitary maritime law

enforcement agencies in maritime disputes, selectively using the PLAN to provide overwatch in case of escalation.

The CCG's rapid expansion and modernization has improved China's ability to enforce its maritime claims. Since 2010, the CCG's fleet of large patrol ships (more than 1,000 tons) has more than doubled from approximately 60 to more than 130 ships, making it by far the largest coast guard force in the world and increasing its capacity to conduct simultaneous, extended offshore operations in multiple disputed areas. Furthermore, the newer ships are substantially larger and more capable than the older ships, and the majority are equipped with helicopter facilities, high-capacity water cannons, and guns ranging from 30 mm to 76 mm. A number of these ships are capable of long-endurance and out-of-area operations. These characteristics give CCG vessels the ability to intimidate local, non-PRC fishing boats, as occurred in an October 2016 incident near Scarborough Reef.

In addition, the CCG operates more than 70 fast patrol combatants (more than 500 tons), which can be used for limited offshore operations, more than 400 coastal patrol craft, and approximately 1,000 inshore and riverine patrol boats. The CCG is likely to add another 25-30 patrol ships and patrol combatants by the end of the decade before the construction program levels off.

People's Armed Forces Maritime Militia (PAFMM). The PAFMM is a subset of China's national militia, an armed reserve force of civilians available for mobilization. Militia units organize around towns, villages, urban sub-districts, and enterprises, and vary widely in composition and mission. In the South China Sea, the PAFMM plays a major role in coercive activities to achieve the PRC's political goals without fighting, part of broader Chinese military theory that sees confrontational operations short of war as an effective means of accomplishing political objectives. The militia has played significant roles in a number of military campaigns and coercive incidents over the years, including the 2009 harassment of USNS *Impeccable* conducting normal operations, the 2012 Scarborough Reef standoff, the 2014 Haiyang Shiyou-981 oilrig standoff, and a large incursion in waters near the Senkakus in 2016.

A large number of PAFMM vessels train with and assist the PLAN and CCG in tasks such as safeguarding maritime claims, surveillance and reconnaissance, fisheries protection, logistic support, and search and rescue. The government subsidizes various local and provincial commercial organizations to operate militia vessels to perform "official" missions on an ad hoc basis outside of their regular civilian commercial activities.

The PAFMM often rents fishing vessels from companies or individual fishermen. However, China has also built a state-owned fishing fleet for at least part of its "maritime militia" in the South China

Sea. The Hainan provincial government, adjacent to the South China Sea, ordered the building of 84 large militia fishing vessels with reinforced hulls and ammunition storage, which the militia received by the end of 2016, along with extensive subsidies to encourage frequent operations in the Spratly Islands. This particular PAFMM unit is also China's most professional. Its forces are paid salaries independent of any clear commercial fishing responsibilities and recruited from recently separated veterans.

PLA CAPABILITIES IN DEVELOPMENT

Key Takeaways

> The PLA is developing capabilities to provide options for the PRC to dissuade, deter, or, if ordered, defeat third-party intervention during a large-scale, theater campaign such as a Taiwan contingency. U.S. defense planners often refer to these collective capabilities as anti-access/area-denial (A2/AD) capabilities.

> The PLA is additionally developing the capabilities and operational concepts to conduct offensive operations within the Second Island Chain, in the Pacific and Indian Oceans, and in some cases, globally.

MILITARY CAPABILITIES FOR A2/AD WITHIN THE FIRST ISLAND CHAIN

Key Takeaways

> In addition to strike, air and missile defense, anti-surface and anti-submarine capabilities improvements, China is focusing on information, cyber, and space and counterspace operations.

> The PLA's A2/AD capabilities are, to date, the most robust within the First Island Chain, although the PRC seeks to strengthen its capabilities to reach farther into the Pacific Ocean.

The PRC's military modernization plan includes the development of A2/AD capabilities to conduct long-range attacks against adversary forces who might deploy or operate within the western Pacific Ocean. The PLA's A2/AD capabilities are, to date, the most robust within the First Island Chain, although the PRC seeks to strengthen its capabilities to reach farther into the Pacific Ocean. These capabilities span the air, maritime, space, electromagnetic, and information domains.

Long-Range Precision Strike. Military modernization has resulted in the rapid transformation of the PLA's missile force. U.S. bases in Japan are in range of a growing number of Chinese MRBMs and LACMs. H-6K bomber flights into the western Pacific Ocean demonstrate China's ability to range

Guam with air-launched LACMs. The DF-26, which debuted publicly in 2015 and was paraded by China again in 2017, is capable of conducting precision conventional or nuclear strikes against ground targets, which could include U.S. bases on Guam. PLA writings see logistics and power projection assets as potential vulnerabilities in modern warfare – a judgement in accord with an expanding ability to target regional air bases, logistics and port facilities, communications, and other ground-based infrastructure.

Ballistic Missile Defense (BMD). China is working to develop ballistic missile defenses consisting of exo-atmospheric and endo-atmospheric kinetic-energy interceptors. In 2016, official media confirmed China's intent to move ahead with land- and sea-based mid-course missile defense capabilities. The HQ-19 mid-course interceptor has undergone tests to verify its capability against 3,000 km-class ballistic missiles, and an HQ-19 unit may have begun preliminary operations in western China. Indigenous radars including the JY-27A and JL-1A – the latter advertised as capable of precision tracking of multiple ballistic missiles – reportedly provide target detection for the system.

The PLA's long-range SAM inventory also offers a limited capability against ballistic missiles. China's domestic CSA-9 (HQ-9) long-range SAM system likely has a limited capability to provide point defense against tactical ballistic missiles. China has fielded SA-20 (S-300 PMU2) SAMs, and its SA-21 (S-400) SAMs may have some capability to engage ballistic missiles, depending on the interceptors and supporting infrastructure.

Surface and Undersea Operations. China continues to construct an array of offensive and defensive capabilities to enable the PLA to gain maritime superiority within the first island chain – the islands running from the Kurils, through Taiwan, to Borneo, roughly encompassing the Yellow Sea, East China Sea, and South China Sea – and grow toward projecting limited combat power at longer ranges. China's broad range of ASCMs and launch platforms as well as submarine-launched torpedoes and naval mines allow the PLAN to create an increasingly lethal, multi-access threat against an adversary approaching Chinese waters and operating areas. Additionally, the PLA has fielded CSS-5 ASBMs specifically designed to hold adversary aircraft carriers at risk when located up to 1,500 km off China's coast, and it has an ASBM variant of the longer range DF-26 IRBM. The PLA's undersea domain capabilities are gradually progressing as well, but it continues to lack a robust deep-water anti-submarine warfare capability. China is installing undersea monitoring systems, which could improve China's knowledge of the undersea environment. Whether the PLA can collect accurate targeting information and pass it to launch platforms in time for successful strikes in sea areas beyond the first island chain is unclear.

Information Operations (IO). China assesses that controlling the information spectrum in the modern battlespace is a critical enabler, if not a fundamental prerequisite, of its ability to counter third-party intervention in a conflict. PLA authors often cite this capability – sometimes termed "information blockade" or "information dominance" – as necessary to seize the initiative and set the conditions necessary to gain air and sea superiority. This "information blockade" concept likely envisions combining military capabilities across space and cyber domains with non-military instruments of state power. China's investment in advanced electronic warfare (EW) systems, counterspace capabilities, and cyber operations – combined with more traditional forms of information control, such as propaganda and denial via opacity – reflect the priority the PLA places on information advantage.

Space and Counterspace. PLA strategists regard the ability to use space-based systems – and to deny them to adversaries – as central to modern warfare. The PLA continues to strengthen its military space capabilities, despite its public stance against the militarization of space. The PLA views space operations as a key enabler of PLA campaigns aimed at countering third-party intervention, although many PLA writings have not elevated these operations to the level of a separate "campaign." China seeks to enhance C2 in joint operations and establish a real-time surveillance, reconnaissance, and warning system, and it is increasing the number and capabilities of its space systems, including various communications and intelligence satellites as well as the Beidou navigation satellite system. China also continues to develop counterspace capabilities and related technologies, including kinetic-kill missiles, ground-based lasers, and orbiting space robots, as well as expanding space surveillance capabilities, which can monitor objects across the globe and in space and enable counterspace actions.

Cyber Operations. PLA researchers believe that building strong cyber capabilities are necessary to protect Chinese networks and advocate seizing "cyberspace superiority" by using offensive cyber operations to deter or degrade an adversary's ability to conduct military operations against China. Chinese writings suggest cyber operations allow China to manage the escalation of a conflict because cyber attacks are a low-cost deterrent. The writings also suggest that cyber attacks demonstrate capabilities and resolve to an adversary. To support A2/AD, Chinese cyber attack operations aim to target critical military and civilian nodes to deter or disrupt adversary intervention, and to retain the option to scale these attacks to achieve desired conditions with minimal strategic cost. China believes its cyber capabilities and cyber personnel lag behind the United States, and it is working to improve training and bolster domestic innovation to overcome these perceived deficiencies and advance cyberspace operations.

Integrated Air Defense System (IADS). China has a robust and redundant IADS architecture over land areas and within 300 nm (556 km) of its coast that relies on an extensive early warning radar

network, fighter aircraft, and a variety of SAM systems. China is also placing radars and air defense weapons on outposts in the South China Sea, further extending its IADS. It also employs point defenses, primarily to defend strategic targets against adversary long-range cruise missiles and airborne strike platforms.

China has increasing numbers of advanced long-range SAMs, including its indigenous CSA-9, Russian SA-10 (S-300 PMU), and SA-20 (S-300 PMU1/PMU2), all of which have the advertised capability to protect against both aircraft and low-flying cruise missiles. To improve its strategic air defenses, China has taken initial delivery of the Russian-built S-400 Triumf SAM system as a follow-on to the SA-20. Compared to these other systems, the S-400s feature a longer maximum range, improved missile seekers, and more sophisticated radars. China manufactures a variety of long-range air surveillance radars, including models claiming to support ballistic missile defense and other models asserting the ability to detect stealth aircraft. Marketing materials also emphasize these systems' ability to counter long-range airborne strike and combat support aircraft. PLAAF airborne early warning and control (AEW&C) aircraft such as the KJ-2000 and KJ-500 can further extend China's radar coverage well past the range of its ground-based radars.

> *Ballistic Missile Defense (BMD).* The PLA's long-range SAM inventory also offers a limited capability against ballistic missiles. China's domestic CSA-9 (HQ-9) long-range SAM system likely has a limited capability to provide point defense against tactical ballistic missiles. China has fielded SA-20 (S-300 PMU2) SAMs, and its SA-21 (S-400) SAMs may have some capability to engage ballistic missiles, depending on the interceptors and supporting infrastructure. China is working to develop BMD systems consisting of exo-atmospheric and endo-atmospheric kinetic-energy interceptors. PRC state media confirmed China's intent to move ahead with land- and sea-based mid-course missile defense capabilities in 2016. The HQ-19 interceptor has undergone tests to verify its capability against 3,000 km-range ballistic missiles. In addition, China is pursuing a mid-course interceptor that may have capabilities against IRBMs and possibly ICBMs.

Air Operations. The PLA's planned fielding of a fifth-generation fighter force will bolster its air-to-air capability, adding to the airpower of China's fourth-generation Russian-built Su-27/Su-30 and J-11A, and its indigenous J- 10A/B/C, J-11B, and more advanced J-16 fighters. The J-20 and FC-31/J-31 feature high maneuverability, stealth characteristics, and an internal weapons bay, as well as advanced avionics and sensors providing enhanced situational awareness, advanced radar tracking and targeting capabilities, and integrated EW systems.

- The PLAAF's growing fleet of J-20, J-16, and J-10C fighters operating with KJ-500 AEW&C aircraft will enable longer-range A2/AD and counterair operations across the Western Pacific Ocean.
- China's continuing upgrades to its bomber fleet will give it the capability to carry new, longer-range cruise missiles. In addition, the PLAAF has added an aerial refueling capability to its new H-6N, extending its range and/or loiter time. Moreover, China is developing the Y-20U, a new tanker variant of its large Y-20 heavy-lift transport, which will enable the PLAAF to significantly expand its tanker fleet and improve its power projection capabilities.
- The PLAAF employs the medium-range H-6K bomber, which can carry up to six precision-guided CJ-20 air-launched cruise missiles (ALCMs) each, giving it the ability to engage U.S. forces as far away as Guam. Since 2016, the PLAAF has steadily increased H-6K operating areas into the western Pacific Ocean and the South China Sea. China continues to employ long-range circumnavigation flights to deter and intimidate Taiwan.
- The PLAN is currently fielding the H-6J bomber, a maritime derivative of the H-6K, which can carry up to six supersonic YJ-12 ASCMs each, allowing for saturation attacks against U.S. naval groups within the Second Island Chain. These will supplement the existing PLAN H-6G bombers capable of carrying up to four YJ-12 ASCMs.

MILITARY CAPABILITIES FOR POWER PROJECTION BEYOND THE FIRST ISLAND CHAIN

Key Takeaways

- The PRC continues to increase its military capabilities to achieve regional and global security objectives beyond a Taiwan contingency.
- China's continuing improvements of air and ground-based missile strike capabilities within and, increasingly, beyond the First Island Chain enable other military assets to operate farther from China.
- China continues to build a multi-carrier force. China's next generation of carriers will have greater endurance and a catapult system.

The PRC continues to increase its military capabilities to achieve regional and global security objectives beyond a Taiwan contingency. PLA ground, naval, air and missile forces are increasingly capable of

projecting power at greater distances from China and they are expanding the PLA's capacity to contest U.S. military superiority in the event of a conflict.

Improvements in China's air and ground-based missile capabilities to range targets beyond the First Island Chain enable other military assets to operate farther from China. These assets can conduct a variety of missions, including sovereignty enforcement and offensive operations such as blockades. China is also enhancing the PLA's ISR capabilities to extend the reach of the PLA's situational awareness, enabling timely responses to perceived threats.

PLA Army (PLAA). Power projection and ground force maneuver for multi-domain operations are consistent themes in the PLAA's modernization efforts. The PLAA continues to play a vital role in the PRC's military defense structure, but the CMC demands that the PLAA emphasize long-range maneuver capabilities and trans-theater exercises. In order to accommodate this, the PLAA is refining its capabilities and prioritizing modernization to prepare for multi-domain, multi-functional operations, and the ability to sustain those operations.

The PLAA's restructuring highlighted and empowered the use of combined-arms brigades and battalions, and the PLAA has started to place an emphasis on the concept of smaller, more adaptable and rapidly deployable formations. The rapidly deployable battalions within PLAA combined-arms brigades have become the new standard "combat element" for the PLAA for combined-arms and joint operations. Medium and light combined-arms battalions are equipped with wheeled, high-mobility vehicles to support rapid, long-range maneuver while conducting independent operations.

As a part of the PLA restructuring, the PLAA increased its number of SOF brigades to 15, providing PLAA commanders at the tactical and operational levels specialized reconnaissance, sabotage effects, and infiltration in support of contingency operations beyond China's borders. During 2019, official PLA media published articles and videos discussing the SOF brigades' capacity for long-range reconnaissance, air mobility, parachute insertion and joint capability, as well as the use of highly trained infantry forces used for rapid strike and seizure operations in unfamiliar locations.

The PLAA's advancing rotary wing aviation capabilities and, more specifically, its new air assault brigades play a vital role in the Army's ability to project power. The PLAA's two air assault brigades participated in an array of training scenarios where they were reportedly able to insert infantry forces on tactical objectives in an expedited fashion. Additionally, the fielding of the new Z-20 medium-lift helicopter will provide the air assault and army aviation brigades with new capabilities for rapid airlift and long-range insertion.

PLA Navy (PLAN). The PLAN continues to develop into a global force, gradually extending its operational reach beyond East Asia into a sustained ability to operate at increasingly longer ranges. The PLAN's latest surface and subsurface platforms enable combat operations beyond the reach of the PRC's land-based defenses. In particular, China's aircraft carriers and planned follow-on carriers, once operational, will extend air defense coverage beyond the range of coastal and shipboard missile systems and will enable task group operations at increasingly longer ranges. The PLAN's emerging requirement for sea-based land-attack systems will also enhance the PRC's ability to project power. Furthermore, the PLAN now has a sizable force of highly capable logistical replenishment ships to support long-distance, long-duration deployments, including two new Fuyu class fast combat support ships (AOEs) built specifically to support aircraft carrier operations. The PLAN's expanding fleet of large modern amphibious warships will enable it to conduct in a wide range of expeditionary operations wherever PRC interests are threatened or in support of PRC participation in UN-sanctioned peacekeeping operations. The expansion of naval operations beyond China's immediate region will also facilitate its non-war military activities and further legitimize the PRC's growing global military posture, including its base in Djibouti.

> The PLAN's force structure continues to evolve, incorporating more platforms with the versatility for both offshore and long- distance power projection. China is engaged in series production of the Renhai class CG, the Luyang III MOD class DDG, and the Jiangdao class FFL, with the full production run of Jiangkai II FFGs probably completed with the delivery of the 30th unit in the class. The Renhai CG displaces more than 10,000 tons and can carry an array of long-range ASCMs and SAMs. It will likely be able to launch ASBMs and LACMs once these weapons are available. The Renhai CG will be China's premier carrier escort for blue-water operations. Four units are currently outfitting, with several more under construction.

> The PLAN continues to extend its strike range with more domestically produced ship-, submarine-, and aircraft-deployed ASCMs with the exception of a few legacy missiles imported from Russia in the 1990s and early 2000s.

> China continues to learn lessons from operating its first aircraft carrier, Liaoning. Its first domestically built aircraft carrier, Shandong, was launched in 2017 and commissioned in December 2019—the beginning of what the PLA states will be a multi-carrier force. China's next generation of carriers, including one that began construction in 2018, will have greater endurance and a catapult launch system capable of launching various types of special mission fixed-wing aircraft for missions such as early warning, EW, and ASW. These improvements would increase the striking power of a potential carrier battle group when deployed to areas beyond China's immediate periphery.

> The PLAN continues to build multiple new, large ships that can support force projection operations, including LHAs, LPDs, large logistic support ships, and specialized blue-water auxiliary ships—including high-capability intelligence collection ships (AGI/AGOS).

The PLAN's ability to perform missions beyond the First Island Chain is modest but growing as it gains more experience operating in distant waters and acquires larger and more advanced platforms. China's experience in extended range operations primarily comes from extended task group deployments and its ongoing counterpiracy mission in the Gulf of Aden.

> In June 2019, Liaoning, accompanied by at least five additional ships transited the Miyako Strait in the First Island Chain en route to the Western Pacific for what China stated was a routine training exercise. The presence of an AOE increases the PLAN's capability to conduct extended carrier operations.

> The PLAN sustained its counter-piracy task groups in the Gulf of Aden in 2019, a ten-year effort that is the PRC's first enduring naval operation beyond the Indo-Pacific region.

> PLAN AGIs operated beyond the First Island Chain in 2019; one Type 815 Dongdiao-class AGI deployed to Australian waters to collect against the trilateral exercise TALISMAN SABER held by the United States, Australia, and Japan.

China has long challenged foreign military activities in its maritime zones in a manner that is inconsistent with the rules of customary international law as reflected in the Law of the Sea Convention. However, in recent years, the PLA has begun conducting the very same types of military activities inside and outside the First Island Chain in the maritime zones of other countries. This activity highlights China's double standard in the application of international law. Examples include sending AGIs to collect on military exercises such as the Rim of the Pacific (RIMPAC) exercise off Hawaii in 2014 and 2018, TALISMAN SABER off Australia in 2019, and a U.S. missile defense test off Alaska in 2017.

PLAN Marine Corps (PLANMC). Ultimately, the PLANMC will be capable of operating from the land, sea, and air to support the PLA's global operations, but this goal will likely not be realized by China's stated goal to complete PLA reforms by 2020. Four new brigades have been established, bringing the total number of combat brigades to six, but only the original two brigades are fully mission capable. There is no evidence to indicate the new brigades are manned, trained and equipped to perform expeditionary missions yet. Additionally, the PLANMC has established an aviation brigade, which will provide the force with organic aviation capabilities, and a SOF brigade.

> In 2019, the PLAN launched its first full-length, flat-deck LHA, highlighting China's growing maritime power projection capabilities.

PLA Air Force (PLAAF) and PLA Navy Aviation. The PLAAF and PLAN Aviation continued to improve their capabilities to conduct offensive and defensive offshore operations such as strike, air and missile defense, strategic mobility, and early warning and reconnaissance missions. Although they currently have limited power projection capability, both the PLAAF and PLAN Aviation are seeking to extend their reach. The PLAAF, in particular, has received repeated calls from its leadership to become a truly "strategic" air force, able to project power at long distances and advance and defend the PRC's global interests.

> The PLAAF is expanding its inventory of refuelable fighters, developing refuelable variants of the H-6 bomber and KJ-500 AEW&C aircraft, and testing a tanker variant of its Y-20 heavy lift transport. Together, these new aircraft will noticeably expand China's ability to conduct long-range offensive air operations.

> Following former PLAAF Commander General Ma Xiaotian's 2016 public statement that China was developing a new generation of long-range bombers, a number of reports suggest the new bomber, likely named the H-20, could debut sometime in the next decade with the following features: a stealthy design, employing many fifth- generation technologies; a likely range of at least 8,500 km; a payload of at least 10 metric tons; and a capability to employ both conventional and nuclear weaponry.

> The construction of new airfields and hangars on outposts in the South China Sea extends the possible operating areas of PLA aviation forces. Future deployments of PLA combat aircraft operating from Spratly Island outposts could feature extended range and/or loiter time over the South China Sea or even reach into the Indian Ocean. China could also replicate its success establishing a naval base in Djibouti to establish overseas logistics facilities that would further extend and sustain regional and global air operations.

> In 2019, the PLAAF participated in several joint multinational training exercises, as well as its first coordinated bomber flight with Russia on July 23, 2019, which PRC state media described as a 'joint strategic air navigation" and was intended to improve coordination and message on strategic stability. During the flight, PLAAF H-6K bombers flew in formation with Russian Tu-95 bombers between Korea and Japan, prompting multiple intercepts from Japanese and South Korean military aircraft. The PRC continued their trend of foreign military competitions and deployed

PLAAF aircraft to AVIADARTS 2019 in Russia. However, the PLAAF also sent H-6K bombers for the first time to TSENTR 19, Russia's strategic military exercise.

> In April 2019, Beijing announced that China and Russia would hold their third computer simulated combined missile defense exercise in Russia, but it is unclear whether this drill happened. China and Russia previously conducted similar exercises in 2016 and 2017.

PLA Rocket Force (PLARF). The PLARF fields multiple missiles capable of strikes within and beyond the First Island Chain. Among these are the CSS-5 Mod 5 (DF-21D) ASBM – with a range of 1,500 km – and a MARV to challenge BMD systems. China also deploys the land-attack CSS-5 Mod 4 (DF-21C) and the ground-launched CH-SSC-9 (CJ-10) LACM, placing infrastructure on Okinawa and the main Japanese islands at risk. The DF-26 IRBM has a maximum range of 4,000 km and is capable of precision strikes against ground and ship targets, potentially threatening U.S. land and sea-based forces as far away as Guam.

PLA Strategic Support Force (SSF). The SFF's strategic space, cyber, and psychological warfare capabilities and missions are not bound by geographic constraints and can be used independently or to enable and support PLA global power projection operations. China continues to develop a variety counterspace capabilities designed to limit or prevent an adversary's use of space-based assets during crisis or conflict. In addition to the development of directed-energy weapons and satellite jammers, the PLA has an operational ground-based anti-satellite (ASAT) missile intended to target low-Earth orbit satellites, and China probably intends to pursue additional ASAT weapons capable of destroying satellites up to geosynchronous Earth orbit.

ADVANCING TOWARD AN INFORMATIZED MILITARY

Key Takeaways

> Chairman Xi Jinping has called for the PLA to create a highly informatized force capable of dominating all networks and expanding the country's security and development interests.

> The PLA considers information operations (IO) as a means of achieving information dominance early in a conflict, and continues to expand the scope and frequency of IO in military exercises.

> The PRC presents a significant, persistent cyber espionage and attack threat to an adversary's military and critical infrastructure systems.

Chairman Xi Jinping has called for the PLA to create a highly informatized force capable of dominating all networks and expanding the country's security and development interests. Chinese

military writings describe informatized warfare as the use of information technology to create an operational system-of-systems, which would enable the PLA to acquire, transmit, process, and use information during a conflict to conduct joint military operations across the ground, maritime, air, space, cyberspace, and electromagnetic spectrum domains. Ongoing military reforms are accelerating the incorporation of command information systems enabling forces and commanders to carry out missions and tasks more effectively to win informatized local wars. The PLA continues to expand the scope and regularity of military exercises simulating informatized operations and likely views conventional and cyberspace operations as a means of achieving information dominance early in a contingency or conflict.

Command, Control, Communications, Computers, and Intelligence (C4I). China continues to prioritize C4I modernization as a response to trends in modern warfare that emphasize the importance of rapid information sharing, processing, and decision-making. The PLA seeks to modernize itself, both technologically and organizationally, to command complex, joint operations.

The PLA sees networked, technologically advanced C4I systems as essential to provide reliable, secure communications to fixed and mobile command posts, thereby enabling rapid, effective, multi-echelon decision-making. These systems were designed to distribute data including intelligence, battlefield information, logistical information, and weather reports via redundant, resilient communications networks to improve commanders' situational awareness. The PLA views making near-real-time ISR data available to field commanders as especially valuable in streamlining their decision processes. China is fielding the Integrated Command Platform to units at multiple levels across the force to enable lateral and cross-service communications required for joint operations. Digital databases and command automation tools allow commanders to simultaneously issue orders to multiple units while on the move and they enable units to quickly adapt their actions to shifting conditions in the battlespace.

These technical improvements are notably boosting PLA operational flexibility and responsiveness. As the PLA continues to focus on its ability to fight and win informatized wars, future information systems will likely implement emerging technologies such as big data, the internet of things, artificial intelligence (AI), and cloud computing to provide reliable, automated platforms yielding further process efficiencies. The PLA has already begun this process by embracing big data analytics that fuse a variety of data to improve automation and to create a comprehensive, real-time picture.

Electronic Warfare. The PLA considers EW an integral component of modern warfare. China's EW strategy emphasizes suppressing, degrading, disrupting, or deceiving enemy electronic equipment. Potential EW targets include adversary systems operating in radio, radar, microwave, infrared and optical frequency ranges, as well as adversary computer and information systems. PLA EW units

routinely train to conduct jamming and anti-jamming operations against multiple communication and radar systems and Global Positioning System (GPS) satellite systems in force-on- force exercises. These exercises test operational units' understanding of EW weapons, equipment, and performance but they also enable operators to improve confidence in their ability to operate effectively in a complex electromagnetic environment. In addition, the PLA reportedly tests and validates advances in EW weapons R&D during these exercises.

Cyberwarfare. The development of cyberwarfare capabilities is consistent with PLA writings, which identify IO – comprising cyber, electronic, and psychological warfare – as integral to achieving information superiority and as an effective means for countering a stronger foe. China has publicly identified cyberspace as a critical domain for national security and declared its intent to expedite the development of its cyber forces.

The PRC presents a significant, persistent cyber espionage and attack threat to military and critical infrastructure systems. China seeks to create disruptive and destructive effects—from denial-of-service attacks to physical disruptions of critical infrastructure— to shape decision-making and disrupt military operations in the initial stages of a conflict by targeting and exploiting perceived weaknesses of militarily superior adversaries. China is improving its cyberattack capabilities and has the ability to launch cyberattacks—such as disruption of a natural gas pipeline for days to weeks—in the United States.

PLA writings note the effectiveness of IO and cyberwarfare in recent conflicts and advocate targeting C2 and logistics networks to affect an adversary's ability to operate during the early stages of conflict. Authoritative PLA sources call for the coordinated employment of space, cyber, and EW as strategic weapons to "paralyze the enemy's operational system of systems" and "sabotage the enemy's war command system of systems" early in a conflict. Increasingly, the PLA considers cyber capabilities a critical component in its overall integrated strategic deterrence posture, alongside space and nuclear deterrence. PLA studies discuss using warning or demonstration strikes—strikes against select military, political, and economic targets with clear "awing effects"—as part of deterrence. Accordingly, the PLA probably seeks to use its cyberwarfare capabilities to collect data for intelligence and cyberattack purposes; to constrain an adversary's actions by targeting network-based logistics, C2, communications, commercial activities, and civilian and defense critical infrastructure; or, to serve as a force-multiplier when coupled with kinetic attacks during armed conflict.

The PLA's ongoing structural reforms may further change how the PLA organizes and commands IO, particularly as the SSF evolves over time. By consolidating cyber and other IO-related elements,

the SSF likely is generating synergies by combining national-level cyber reconnaissance, attack, and defense capabilities in its organization.

Activities Directed Against the U.S. Department of Defense (DoD)

PRC-based intrusions continued to target computer systems around the world including those owned by the U.S. Government through 2019. These and past intrusions focus on accessing networks and extracting information. China uses its cyber capabilities to not only support intelligence collection against U.S. diplomatic, economic, academic, and defense industrial base sectors, but also to exfiltrate sensitive information from the defense industrial base to gain military advantage. The targeted information can benefit China's defense high-technology industries, support China's military modernization, provide the CCP insights into U.S. leadership perspectives, and enable diplomatic negotiations, such as those supporting the One Belt, One Road initiative (OBOR). Additionally, targeted information could enable PLA cyber forces to build an operational picture of U.S. defense networks, military disposition, logistics, and related military capabilities that could be exploited prior to or during a crisis. The accesses and skills required for these intrusions are similar to those necessary to conduct cyber operations in an attempt to deter, delay, disrupt, and degrade DoD operations prior to or during a conflict. In aggregate, these cyber-enabled campaigns threaten to erode U.S. military advantages and imperil the infrastructure and prosperity on which those advantages rely.

NUCLEAR DETERRENCE

Key Takeaways

- The PRC's strategic ambitions, evolving view of the security landscape, and concerns over survivability are driving significant changes to the size, capabilities, and readiness of its nuclear forces.
- China's nuclear weapons policy prioritizes the maintenance of a survivable nuclear force that can retaliate against an adversary's first strike.
- China has long maintained a "no first use" (NFU) policy, although there is ambiguity over the conditions under which China would act outside of its NFU policy.
- China's nuclear forces will significantly evolve over the next decade as it modernizes, diversifies, and increases the number of its land-, sea-, and air-based nuclear delivery platforms.
- Over the next decade, China's nuclear warhead stockpile—currently estimated to be in the low-200s—is projected to at least double in size as China expands and modernizes its nuclear forces.
- China is pursuing a "nuclear triad" with the development of a nuclear capable air-launched ballistic missile (ALBM) and improving its ground and sea-based nuclear capabilities.
- New developments in 2019 further suggest that China intends to increase the peacetime readiness of its nuclear forces by moving to a launch-on-warning (LOW) posture with an expanded silo-based force.

The PRC's nuclear weapons policy prioritizes the maintenance of a nuclear force able to survive a first strike and respond with sufficient strength to inflict unacceptable damage on an enemy. China is enhancing peacetime readiness levels for these nuclear forces to ensure their responsiveness. In addition, China insists its new generation of mobile missiles, with warheads consisting of MIRVs and penetration aids, are intended to ensure the viability of its strategic nuclear forces in the face of continued advances in U.S. and, to a lesser extent, Russian strategic ISR, precision strike, and missile defense capabilities. India also plays a factor in China's nuclear threat perceptions.

Over the next decade, China's nuclear warhead stockpile—currently estimated to be in the low-200s—is projected to at least double in size as China expands and modernizes its nuclear forces. The anticipated changes to the capacity, capability, and readiness of China's nuclear forces in the coming years seem likely to outpace potential developments by any adversary that could plausibly threaten

China's ability to retaliate against a first strike. These developments and China's lack of transparency raise concerns that China is not only shifting its requirements for what constitutes a minimal deterrent, but that it could shift away from its longstanding minimalist force posture.

No First Use Policy. China has long maintained an NFU policy, stating that it would use nuclear forces only in response to a nuclear strike against China. China's NFU pledge consists of two stated commitments: China will never use nuclear weapons first at any time nor under any circumstances, and China unconditionally undertakes not to use or threaten to use nuclear weapons against any non-nuclear-weapon state or in nuclear-weapon-free zones.

There is some ambiguity, however, in the narrative in China over the conditions under which China's NFU policy would no longer apply. Some PLA officers have written publicly of the need to spell out conditions under which China might need to use nuclear weapons first; for example, if an enemy's conventional attack threatened the survival of China's nuclear force or of the regime itself. There has been no indication that national leaders are willing to attach such nuances and caveats publicly to China's existing NFU policy as affirmed by recent statements by the PRC Foreign Ministry. China's lack of transparency regarding the scope and scale of its nuclear modernization program, however, raises questions regarding its future intent as it fields larger, more capable nuclear forces.

Land-Based Platforms. China's nuclear arsenal currently consists of approximately 100 ICBMs, including the silo-based CSS-4 Mod 2 (DF-5A) and Mod 3 (DF-5B); the solid-fueled, road-mobile CSS-10-class (DF-31, DF-31A and DF-31AG); and the more limited range roll-out-to-launch CSS-3 (DF-4). This strategic arsenal is complemented by road-mobile, solid-fueled CSS-5 Mod 2 and Mod 6 (DF-21) MRBMs and DF-26 IRBMs capable of ranging targets in the Indo-Pacific region. Media reports suggest that China may be developing a DF-5C and DF-31B ICBM with the DF-41 (CSS-X-20) ICBM fielding possible in the near term.

Sea-based Platforms. China has constructed six Jin class SSBNs, with four operational and two outfitting at Huludao Shipyard. China's Jin SSBNs, which are equipped to carry up to 12 CSS-N-14 (JL-2) SLBMs, are the country's first viable sea-based nuclear deterrent. China's next-generation Type 096 SSBN reportedly will be armed with a follow-on SLBM, and it will likely begin construction in the early- 2020s. Based on the 40-plus-year service life of China's first generation SSNs, China will operate its Jin and Type 096 SSBN fleets concurrently. The current range limitations of the JL-2 will require the Jin class SSBNs to operate in areas north and east of Hawaii if China seeks to target the east coast of the United States. As China fields newer, more capable, and longer ranged SLBMs such as the JL-3, the PLAN will gain the ability to target the United States from littoral waters.

Air Platforms. The PLAAF publicly revealed the H-6N as a long-range strategic bomber during the 70th anniversary parade in October 2019. The most significant improvements of the H-6N versus legacy H-6 bombers is the addition of its air-to-air refueling probe, as well as its recessed fuselage modifications that would allow for external carriage of an ALBM believed to be nuclear capable.

Future Developments. Over the next decade, China will expand and diversify its nuclear forces, likely at least doubling its nuclear warhead stockpile. China probably intends to develop new nuclear warheads and delivery platforms that at least equal the effectiveness, reliability, and/or survivability of some of the warheads and delivery platforms currently under development by the United States and Russia.

Currently, China probably maintains an operational nuclear warhead stockpile in the low-200s. China probably has enough nuclear materials to at least double its warhead stockpile without new fissile material production.

China justifies its development of a range of technologies for its nuclear forces—including MARV, MIRVs, decoys, chaff, jamming, thermal shielding, and hypersonic glide vehicles—as necessary to counter U.S. and other countries' BMD, ISR, and precision strike systems. China is working to field nuclear theater-range, precision-strike systems.

China maintains nuclear-capable delivery systems in the PLARF and PLAN, and the PLAAF has been reassigned a nuclear mission. To date, PRC officials have identified both the H-6N bomber and China's future strategic stealth bomber as dual-capable delivery platforms. The PLA is upgrading its aircraft with two new ALBMs, one of which may include a nuclear payload. Its deployment and integration would provide China for the first time with a viable nuclear triad of delivery systems dispersed across land, sea, and air forces.

China maintained a high level of activity at its Lop Nur nuclear weapons test site throughout 2019, according to the U.S. Department of State's April 2020 *Executive Summary of Findings on Adherence to and Compliance with Arms Control, Nonproliferation, and Disarmament Agreements and Commitments*. The executive summary states, "China's possible preparation to operate its Lop Nur test site year-round, its use of explosive containment chambers, extensive excavation activities at Lop Nur, and lack of transparency on its nuclear testing activities – which has included frequently blocking the flow of data from its International Monitoring System (IMS) stations to the International Data Center operated by the Preparatory Commission for the Comprehensive Nuclear Test-Ban Treaty Organization – raise concerns regarding its adherence to the 'zero yield' standard adhered to by the United States, United Kingdom, and France in their respective nuclear weapons testing moratoria."

The PRC has not clarified how its strategic forces will evolve commensurate with its objective of having a "world-class" military or if China's goal of becoming a "great modern socialist country" will alter its nuclear deterrence requirements. In its 2019 defense white paper, China reiterated its longstanding position that it "…keeps its nuclear capabilities at the minimum level required for national security." However, China's nuclear forces appear to be on a trajectory to exceed the size of a "minimum deterrent" as described in the PLA's own writings as a small quantity of nuclear weapons to strike enemy urban targets. China's evolving posture is more consistent with what PLA writings describe as a "limited deterrent"—a posture that the PLA describes as between a minimum and maximum deterrent.

Lower-yield Nuclear Weapons. PRC strategists have highlighted the need for lower-yield nuclear weapons in order to increase the deterrence value of China's nuclear force without defining specific nuclear yield values. A 2017 defense industry publication indicated a lower-yield weapon had been developed for use against campaign and tactical targets that would reduce collateral damage. The DF-26 is China's first nuclear-capable missile system that can conduct precision strikes, and therefore, is the most likely weapon system to field a lower-yield warhead in the near-term.

Readiness. Although China almost certainly keeps the majority of its nuclear force on a peacetime status—with separated launchers, missiles, and warheads—nuclear and conventional PLARF brigades conduct "combat readiness duty" and "high alert duty" which apparently includes assigning a missile battalion to be ready to launch, and rotating to standby positions as much as monthly for unspecified periods of time. Authoritative PLA text books on strategy state "high alert duty" is valuable for the defender in a nuclear war, recommending the PLARF adopt a high alert posture conceptually comparable to the claimed high alert posture kept by portions of U.S. and Russian nuclear forces, and that such a posture is compatible with the PRC's active defense concept, NFU policy, and post-strike response approach.

Launch on Warning (LOW). Increasing evidence emerged in 2019 indicates that China seeks to keep at least a portion of its force on a LOW posture. This includes further investment in silo-based forces—while building more survivable mobile platforms—that China has previously assessed as having low survivability in the absence of a force-wide LOW posture and new developments in its early warning capabilities.

The PRC's 2015 defense white paper identified "improved strategic early warning, command and control…and rapid reaction," as specific nuclear force modernization goals. In 2015 and 2016, PRC official state media reported that some of its ICBM force was conducting alerts, including the DF-31A ICBM. It is unclear from these reports what such alerts entailed.

Commercial imagery from 2019 has revealed that China has constructed an ICBM silo at one of the PLARF's Western training ranges that is smaller than China's existing CSS-4 (DF-5) silos. According to state media, the CSS-X-20 (DF-41) ICBM can be launched from silos; this site is probably being used to at least develop a concept of operations for silo basing this system. There are also some indications that China may be building new CSS-4 (DF-5) ICBM silos.

China is working to develop a space-based early warning capability that could support this posture in the future. In October 2019, Russia announced plans to assist China in developing their missile-attack early warning network, including aiding the development of ground-based radars and potentially extending to space-based sensors. China already has several ground-based large phase array radars – similar in appearance to U.S. PAVE PAWS radars – that could support a missile early warning role.

These images show that new silos, having first been identified in fall 2019 by a non-governmental organization's commercial imagery, appear externally complete. Their size precludes use by the DF-5 and may support concept development for a silo-based DF-41 or one of China's smaller ICBMs. When taken with China's past concerns about silo survivability and ongoing strategic early warning developments, these new silos provide further evidence China is moving to a LOW posture.

PLA Underground Facilities

The PLA continues to maintain a robust and technologically advanced underground facility (UGF) program to protect all aspects of its military forces, including C2, logistics, missile systems, and naval forces. China has thousands of UGFs and it continues to construct more each year. The PLA utilizes these UGFs to protect valuable assets from the effects of missile strikes and to conceal military operations from adversaries. China's NFU policy also contributed to the construction of UGFs for the country's nuclear forces, which may have planned to survive an initial nuclear first strike by an adversary.

China began to update and expand its military UGF program in the mid- to late-1980s. This modernization effort took on renewed urgency following China's observation of U.S. and Coalition air operations during the 1991 Gulf War and their use in Operation ALLIED FORCE. These military campaigns convinced China it needs to build more survivable, deeply buried facilities to protect military assets from the effects of penetrating conventional munition and nuclear strikes. China will likely continue to develop and expand its UGF program to support its expanding forces.

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FORCES, CAPABILITIES, AND ACTIVITIES ON CHINA'S PERIPHERY

Key Takeaways

- China continues to implement reforms associated with the establishment of the Eastern, Southern, Western, Northern, and Central Theater Commands, which are organized based on China's perception of peripheral threats.
- Under the direction of the Central Military Commission (CMC), each Theater Command has authority over the services and conventional forces within the theater.

China continues to implement reforms associated with the establishment of five theater commands in early 2016. The Eastern, Southern, Western, Northern and Central Theater Commands replaced seven army-based military regions and are now the highest-ranking joint operations command organizations within their respective geographical areas. Each theater command receives direction from the CMC and has operational authority over most PLA conventional forces within its theater. The theater commands are also responsible for all non-nuclear combat and non-combat operations within their area of responsibility. Theater commands are also responsible for developing theater-specific command strategies aimed at preparing to fight and win against adversaries, developing joint operational plans, assessing military capability requirements for the forces in their theaters, responding to crises, and safeguarding the sovereignty and stability of their theaters. The PRC's threat perceptions shape the strategic directions for the theater commands, with levels of emphasis and specific missions and tasks varying:

- **Eastern Theater Command** – Taiwan, Japan, East China Sea;
- **Southern Theater Command** – South China Sea, Southeast Asia;
- **Western Theater Command** – India, South Asia, Central Asia, "counterterrorism" in Xinjiang and Tibet;
- **Northern Theater Command** – Korean Peninsula, Russia;
- **Central Theater Command** – Capital defense; surge support to other theaters.

EASTERN THEATER COMMAND

Key Takeaway

> The Eastern Theater Command is oriented toward Taiwan and the East China Sea.

The Eastern Theater Command likely executes operational control over national defense matters related to Taiwan and Japan, including contingencies in and around the Taiwan Strait and the Senkaku Islands. In 2019, the Eastern Theater Command focused on a series of training and exercises to improve joint operations and combat readiness, organizing exercises and drills consisting of long-distance training and mobilization, aerial combat, and live-fire training. PLA units located within the Eastern Theater Command include three group armies, a naval fleet, two marine brigades, two Air Force bases, and one missile base. The Eastern Theater Command also likely commands all China Coast Guard (CCG) and maritime militia ships while conducting Senkakus-related operations.

> In April 2019, the Eastern Theater Command JOCC commanded joint training east of Taiwan, which they asserted was to train for joint fire and maritime strike. The training included bombers, fighters, electronic jamming and intelligence, surveillance, and reconnaissance (ISR) aircraft circumnavigating Taiwan while naval combatants trained for mock strikes and helicopters delivered an amphibious landing force. In March, two J-11 fighters crossed the unofficial median line of the Taiwan Strait, for the first time since 1999. The Eastern Theater Command also likely played a significant role in a nationwide exercise across all five theater commands based on the locations of some of the exercise activity near Taiwan.

> As of March 2019, the PLA Air Force (PLAAF) assigned its first fifth generation J-20s to an operational unit, a fighter brigade in the Eastern Theater Command, probably to improve its ability to respond to U.S. and allied aircraft in the area. In March 2019, a likely Eastern Theater Y-8Q anti-submarine warfare (ASW) aircraft was also first observed operating in the East China Sea by Japan.

DEVELOPMENTS IN THE SECURITY SITUATION IN THE TAIWAN STRAIT

Key Takeaways

> Relations between the PRC and Taiwan remained tense through 2019.

> The PLA continued Taiwan Strait contingency preparations.

Relations between the PRC and Taiwan remained at an impasse through 2019. Since the 2016 election of Tsai Ing-wen as Taiwan's president, China halted formal communication with Taiwan and has repeatedly stressed that Taiwan must accept the "1992 Consensus" to restart formal engagement. Since November 2016, China's leaders have directly equated the "1992 Consensus" to "one China," which was reaffirmed by President Xi in a January 2019 address to "compatriots" in Taiwan. Taiwan President Tsai Ing-wen has continually pledged to maintain the status quo in cross-Strait relations and called for China to respect Taiwan's democracy and agree to negotiations without preconditions.

The PRC also maintained its diplomatic pressure on Taiwan, thwarting Taiwan's efforts to participate in international organizations such as the World Health Organization, International Civil Aviation Organization, and INTERPOL. In 2019, the PRC convinced the Solomon Islands and Kiribati to break diplomatic relations with Taiwan. Despite the stalled consultations with the ruling Democratic Progressive Party (DPP), the Chinese Communist Party (CCP) continues to engage with Taiwan's Kuomintang (KMT) party, and the PRC continues to hold lower-level cross-Strait exchanges such as the municipal Shanghai-Taipei Twin City Forum.

The PLA continues to prepare for contingencies in the Taiwan Strait to deter, and if necessary, compel Taiwan to abandon moves toward independence. The PLA also is likely preparing for a contingency to unify Taiwan with the mainland by force, while simultaneously deterring, delaying, or denying any third-party intervention on Taiwan's behalf. As part of a comprehensive campaign to pressure Taiwan and the Tsai Administration, China has increased military exercises in the vicinity of Taiwan, including circumnavigation flights by the PLAAF and naval exercises in the East China Sea.

Taiwan's national defense report released in 2017 cited concerns that increased PLA military activity near Taiwan poses an "enormous threat to security in the Taiwan Strait," and that Taiwan requires a "multiple deterrence strategy," including an emphasis on developing asymmetric warfare to counter PLA advances.

EAST CHINA SEA

Key Takeaway

> China continues to use maritime law enforcement ships and aircraft to patrol near the Japan-administered Senkaku Islands.

China claims sovereignty over the Japanese-administered Senkaku Islands in the East China Sea, which Taiwan also claims. The United States does not take a position on sovereignty of the Senkaku Islands but recognizes Japan's administration of the islands and continues to reaffirm that the islands fall within the scope of Article 5 of the U.S.-Japan Mutual Security Treaty. In addition, the United States opposes any unilateral actions that seek to undermine Japan's administration of the islands. China uses maritime law enforcement ships and aircraft to patrol near the islands. During 2019, China typically maintained a presence in the Senkaku Islands with four CCG ships, which enter the waters within 12 nm of the islands. The CCG conducted its longest-ever patrol, 64 days, in the Senkaku Islands contiguous zone in 2019, and entered Japanese territorial waters in the Tsugaru Strait.

Separately, the PLA Navy (PLAN) frequently advances into the Pacific Ocean by passing between Japan's Okinawa and Miyako Islands. The Eastern Theater Navy regularly conducts military exercises in the Sea of Japan to prepare for potential conflicts.

Eastern Theater

SOUTHERN THEATER COMMAND

Key Takeaway

> The Southern Theater Command is oriented toward the South China Sea, Southeast Asia border security, and territorial and maritime disputes.

The area of responsibility of the Southern Theater Command covers mainland and maritime Southeast Asia, including the South China Sea. This geographic area implies that the Southern Theater Command is responsible for securing the South China Sea, supporting the Eastern Theater Command in any invasion of Taiwan, responding to territorial disputes, and assuring the security of sea lines of communication (SLOCs) seen as vital to China's global ambitions. PLA units located within the Southern Theater Command are two group armies, a naval fleet, two marine brigades, two Air Force bases, and two Rocket Force bases. The Southern Theater Command is responsible for responding to U.S. freedom of navigation operations in the South China Sea, and likely commands all CCG and maritime militia ships conducting operations within China's claimed "nine-dash line."

> The Southern Theater Command is responsible for training, force disposition, and operations in the South China Sea. In 2019, Southern Theater Command units conducted multiple live-fire drills and amphibious training events near PRC-occupied features in the South China Sea. The Southern Theater Command also plays a significant role in the PLA's bilateral and multilateral exercises with countries in Southeast Asia, participating in counterterrorism and naval exercises in 2019.

> The Southern Theater Command commands the PLA Hong Kong and Macao garrisons. In August 2019, the PLA Hong Kong and Macao garrisons conducted an annual rotation of forces. In Hong Kong, PLA and probable People's Armed Police (PAP) forces deployed into Hong Kong by land, air, and sea from Shenzhen at night, however, no forces were observed rotating out of Hong Kong. The PRC's troop rotation announcement in 2019 did not include a statement that PLA troop and equipment levels remain unchanged. Throughout the months of protests, PAP and PLA units have been publicly highlighting their anti-riot, counterterrorism, and disaster prevention training.

> All the PLA's 24 Su-35s purchased from Russia are assigned to the Southern Theater Command Air Force, and have flown patrols in the South China Sea and into the Western Pacific. The Southern Theater Command was the first command to receive the PLAN's H-6J maritime strike bombers. China's first-domestically produced aircraft carrier arrived in the Southern Theater Command at Yulin Naval Base, very likely its operational base, in November 2019 with embarked J-15s.

SOUTH CHINA SEA

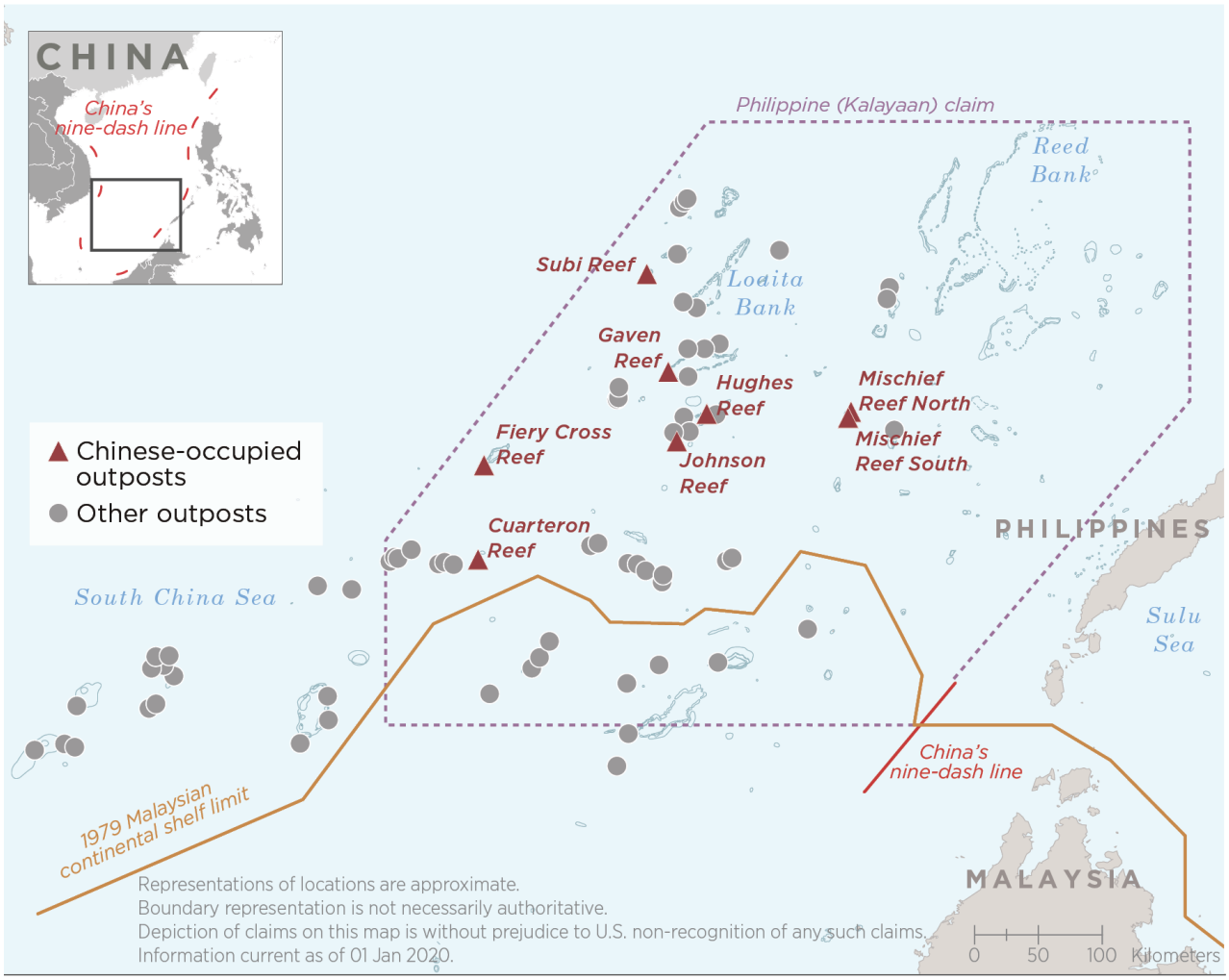
Key Takeaways

- In 2019, China did not resume South China Sea land reclamation or major military infrastructure construction at its seven Spratly Islands outposts.
- China's outposts are capable of supporting military operations and include advanced weapon systems; however, no large-scale air presence has been yet observed in the Spratly Islands.
- In 2019, China deployed PLAN, CCG, and civilian ships in response to Vietnamese and Malaysian drilling operations within China's claimed "nine-dash-line" and construction by the Philippines at Thitu Island.

Developments in the Security Situation. In July 2016, an arbitral tribunal convened pursuant to provisions in the 1982 Law of the Sea Convention ruled in a case brought by the Philippines that China's claims to "historic rights" in the South China Sea within the area depicted by the "nine-dash line" could not exceed its maritime rights or entitlements as specifically provided in relevant provisions of the Law of the Sea Convention. Despite the decision, the PRC continues to use coercive tactics, including the employment of PLA naval and paramilitary vessels, to enforce its claims and advance its interests. China does so in ways calculated to remain below the threshold of provoking conflict. China has deployed anti-ship cruise missiles (ASCMs) and long-range surface-to-air missiles (SAMs) to the Spratly Islands, and fighters and SAMs to the disputed Paracel Islands.

- China states that international military presence within the South China Sea is a challenge to its sovereignty. China continues to employ coercive tactics to enforce its claims. In 2019, China deployed PLAN, CCG, and civilian ships in response to Vietnamese and Malaysian drilling operations within China's claimed "nine-dash line" and construction by the Philippines at Thitu Island.
- In July 2019, China and Association of Southeast Asian Nations (ASEAN) members completed the first reading of the China-ASEAN Code of Conduct, with a second and third reading remaining before China and ASEAN members finalize the agreement. China and ASEAN member states seek to complete negotiations by 2021. The negotiations are unlikely to produce substantive outcomes because China and some South China Sea claimants are probably sensitive to diplomatic language that limits their activities and a requirement for ASEAN consensus.

Outposts in the Spratly Islands



Outposts Capable of Supporting Military Operations. Since early 2018, PRC-occupied Spratly Island outposts have been equipped with advanced anti-ship and anti-aircraft missile systems and military jamming equipment, marking the most capable land-based weapons systems deployed by any claimant in the disputed South China Sea to date. From early 2018 to late 2019, China regularly utilized its Spratly Islands outposts to support naval and coast guard operations in the South China Sea.

The PRC completed military infrastructure on its three larger outposts in the Spratly Islands at Fiery Cross, Subi, and Mischief Reefs by early 2018, including aviation facilities, port facilities, fixed-weapons positions, barracks, administration buildings, and communications facilities; and shore-based

infrastructure on its four smaller outposts in the Spratly Islands—Johnson, Gaven, Hughes, and Cuarteron Reefs—by early 2016, including administrative buildings, weapons stations, and sensor emplacements.

No substantial land has been reclaimed at any of the outposts since the PRC completed its extensive artificial manipulation in the Spratly Islands in late 2015, after adding more than 3,200 acres of land to the seven features it occupies in the Spratlys.

China has stated these projects are mainly to improve marine research, safety of navigation, and the living and working conditions of personnel stationed on the outposts. However, the outposts provide airfields, berthing areas, and resupply facilities that allow China to maintain a more flexible and persistent military and paramilitary presence in the area. This improves China's ability to detect and challenge activities by rival claimants or third parties and widens the range of response options available to China.

Southern Theater

WESTERN THEATER COMMAND

Key Takeaway

> The Western Theater Command is oriented towards India and "counterterrorism" missions along the PRC's western borders.

The Western Theater Command is geographically the largest theater command within China and is likely responsible for responding to conflict with India and terrorist and insurgent threats to and within western China. PLA units located within the Western Theater Command include two group armies, other Army units under the region's two military districts (Xinjiang and Tibet), three Air Force bases, and one Rocket Force base. PAP units responsible for Xinjiang operations are also likely under the control of the Western Theater Command.

Within China, the Western Theater Command focuses on the Xinjiang and Tibet Autonomous Regions where the CPP perceives a high threat of separatism and terrorism, particularly among Uyghur populations. According to the U.S. Department of State's *2019 Country Reports on Human Rights Practices*, the PRC in 2019 "continued its campaign of mass detention of members of Muslim minority groups in the Xinjiang Uygur Autonomous Region (Xinjiang). Authorities were reportedly to have arbitrarily detained more than one million Uyghurs, ethnic Kazakhs, Kyrgyz, and other Muslims in extrajudicial internment camps designed to erase religious and ethnic identities. Chinese government officials justified the camps under the pretense of combatting terrorism, separatism, and extremism."

CHINA-INDIA BORDER

Key Takeaways

> In 2019, officials from the PRC and India continued regular meetings regarding their disputed border, while low-level face-offs persisted between Chinese and Indian military personnel.

> Chinese and Indian forces both continued construction and patrols in contested regions along the disputed border, but generally kept tensions from escalating in 2019.

Chinese and Indian patrols regularly encountered one another along their disputed border, and both sides often accuse each other of border incursions. Despite low-level face-offs among troops in 2019, China and India prevented these incidents from escalating to the level of the 73-day border standoff at the Doklam Plateau in 2017. In 2019, Chinese and Indian forces engaged in regular border meetings to discuss disputes. Meanwhile, Chinese and Indian officials continued diplomatic discussions on border issues.

- In October 2019, President Xi Jinping met with Prime Minister Narendra Modi in Chennai, India to discuss economic relations and the importance of the peaceful resolution of contentious issues, particularly regarding the border. This meeting was the second summit between Xi and Modi, the first of which occurred in April 2018 following the 2017 Doklam standoff.
- In August 2019, China submitted "early harvest" proposals regarding China-India border issues to India, which was the first time that China had approached India with resolution proposals. Although India was not pleased with the proposals, the 22nd meeting of the Special Representatives of India and China occurred in December 2019 and reinforced both sides' shared intent to manage tensions in the border region.

Western Theater

NORTHERN THEATER COMMAND

Key Takeaway

> The Northern Theater Command is oriented toward the Korean Peninsula and Russian border security.

The area of responsibility of the Northern Theater Command includes the majority of China's borders with Mongolia and Russia, North Korea, and the Yellow Sea. The Northern Theater is responsible for operations along China's northern periphery and conducting border stability operations associated with a North Korean contingency and northern border contingencies involving Mongolia or Russia. PLA units located within the Northern Theater Command are three group armies, a naval fleet, two marine brigades, two air bases, and one PLARF base. The Northern Theater Navy would be responsible primarily for protecting the sea approaches to northern China, but could provide mission-critical assets to support other fleets. In 2019, the Northern Theater Command Navy carried out a comprehensive anti-submarine drill and a long-range air defense maneuver exercise. The Northern Theater Air Force also executed a combat-readiness drill, conducting day and nighttime patrols.

RELATIONS WITH NORTH KOREA

Key Takeaways

> China's strained relationship with North Korea appeared to warm somewhat in 2019.

> The PLA continued to conduct military exercises in preparation for a contingency on the Korean Peninsula.

The PRC's relationship with North Korea appeared to warm somewhat following a period tensions after China increased implementation of UN Security Council resolutions in 2017. China largely continues to enforce a number of the UN Security Council's resolution sanctions against North Korea, but Beijing regularly fails to act against illicit ship-to-ship transfers in China's territorial seas, take action against China-based North Korean banking and weapons trade representatives and their activities, and continues to import coal—albeit at lower volumes—via Chinese barges and ship-to-ship transfers. In 2019, President Xi Jinping met twice with Kim Jong-un, complementing numerous lower-level official exchanges in both North Korea and China. China and North Korea restarted high-level military diplomacy, which included North Korean participation in the PLA Navy's (PLAN's) international fleet review and several meetings between military officials. These engagements include a high-level

visit by the director of the General Political Bureau of the Korean People's Army Kim Su-gil with CMC

Vice Chairman Zhang Youxia in Beijing. China's objectives for the Korean Peninsula include stability, denuclearization, and the absence of U.S. forces near China's border. China's focus on maintaining stability on the Korean Peninsula involves preventing North Korea's collapse and military conflict on the Peninsula. Toward these ends, China continues to advocate for a dual-track approach towards North Korea that embraces both dialogue and pressure, and that encourages the resumption of U.S.-North Korea talks.

The PLA conducts military exercises in preparation for a contingency on the Korean Peninsula including air, land, sea, and chemical defense training events. China's leaders could order the Northern Theater Command to engage in a range of operations in the event of a crisis. These could include securing the China-North Korea border to prevent the flow of refugees or a military intervention into North Korea. China could cite the 1961 Treaty of Friendship, Co-operation and Mutual Assistance that it signed with North Korea as a justification to send the PLA into North Korea.

Northern Theater

CENTRAL THEATER COMMAND

Key Takeaway

> The Central Theater Command is oriented toward capital defense and providing surge support to other theaters.

The Central Theater Command is responsible for the defense of the capital, providing security for CCP leadership, and serving as a strategic reserve to the other theater commands. The Central Theater Command's area of responsibility stretches from the Bohai Gulf to the interior of China, connecting the other four theater commands. Units within the Central Theater Command include three group armies, two Air Force bases, and one Rocket Force base. Although the Central Theater Command has coastal responsibilities, it lacks a subordinate naval fleet.

Central Theater

CHINA'S STRATEGY AND CAPABILITIES DEVELOPMENT IN THE TAIWAN STRAIT

Key Takeaways

- Although China advocates for peaceful unification with Taiwan, China has never renounced the use of military force; the circumstances under which China has historically warned it would use force remain ambiguous and have evolved over time.
- China has a range of options for military campaigns against Taiwan, from an air and maritime blockade to a full-scale amphibious invasion to seize and occupy some or all of Taiwan or its offshore islands.

The PRC appears willing to defer the use of military force as long as it considers that unification with Taiwan could be negotiated over the long-term and the costs of conflict outweigh the benefits. China argues that the credible threat of force is essential to maintaining the conditions for political progress and preventing Taiwan from making moves toward independence. In January 2019, President Xi Jinping publicly reiterated China's long-standing refusal to renounce the use of force to resolve the Taiwan issue. In the same speech, Xi also reaffirmed China's longstanding position for peaceful unification under the principle of "one country, two systems."

The circumstances under which the PRC has historically warned it would use force have evolved over time. These circumstances have included:

- Formal declaration of Taiwan independence;
- Undefined moves toward Taiwan independence;
- Internal unrest in Taiwan;
- Taiwan's acquisition of nuclear weapons;
- Indefinite delays in the resumption of cross-Strait dialogue on unification;
- Foreign intervention in Taiwan's internal affairs; and,
- Foreign forces stationed on Taiwan.

Article 8 of China's March 2005 *Anti-Secession Law* states China may use "non-peaceful means" if "secessionist forces . . . cause the fact of Taiwan's secession from China," if "major incidents entailing Taiwan's secession" occur, or if "possibilities for peaceful reunification" are exhausted. China's use of such non-specific conditions increases their policy flexibility through deliberate strategic ambiguity.

China continues to view the Taiwan issue as the most important and sensitive issue between the United States and China.

CHINA'S COURSES OF ACTION AGAINST TAIWAN

The PRC continues to signal its willingness to use military force against Taiwan. The PLA has a range of options to coerce Taipei based on its increasing capabilities in multiple domains. China could pursue a measured approach by signaling its readiness to use force or conduct punitive actions against Taiwan. The PLA could also conduct a more comprehensive campaign designed to force Taiwan to capitulate to unification, or unification dialogue under China's terms. Notably, China would seek to deter potential U.S. intervention in any Taiwan contingency campaign – capabilities that the PRC highlighted during its October 2019 military parade celebrating its 70th anniversary. Failing that, China would attempt to delay and defeat intervention in an asymmetric, limited war of short duration. In the event of a protracted conflict, China might choose to escalate cyberspace, space, or nuclear activities in an attempt to end the conflict, or it might choose to fight to a stalemate and pursue a political settlement. The PLA could initiate the military options listed below individually or in combination.

Air and Maritime Blockade. PLA writings describe a Joint Blockade Campaign in which China would employ kinetic blockades of maritime and air traffic, including a cut-off of Taiwan's vital imports, to force Taiwan's capitulation. Large-scale missile strikes and possible seizures of Taiwan's offshore islands would accompany a Joint Blockade in an attempt to achieve a rapid Taiwan surrender, while at the same time, posturing air and naval forces to conduct weeks or months of blockade operations if necessary. China will also likely complement its air and maritime blockade operations with concurrent electronic warfare (EW), network attacks, and information operations (IO) to further isolate Taiwan's authorities and populace and to control the international narrative of the conflict.

Limited Force or Coercive Options. China could use a variety of disruptive, punitive, or lethal military actions in a limited campaign against Taiwan, probably in conjunction with overt and clandestine economic and political activities supported by a variety of IO to shape perceptions or undercut the effectiveness or legitimacy of the Taiwan authorities. Such a campaign could include computer network or limited kinetic attacks against Taiwan's political, military, and economic infrastructure to induce fear in Taiwan and degrade the Taiwan population's confidence in their leaders. Similarly, PLA special operations forces (SOF) could infiltrate Taiwan and conduct attacks against infrastructure or leadership targets.

Air and Missile Campaign. China could use missile attacks and precision air strikes against air defense systems, including air bases, radar sites, missiles, space assets, and communications facilities to degrade Taiwan's defenses, neutralize Taiwan's leadership, or break the Taiwan people's resolve.

Invasion of Taiwan. Publicly available Chinese writings describe different operational concepts for an amphibious invasion of Taiwan. The most prominent of these, the Joint Island Landing Campaign, envisions a complex operation relying on coordinated, interlocking campaigns for logistics, air, and naval support, and EW. The objective would be to break through or circumvent shore defenses, establish and build a beachhead, transport personnel and materiel to designated landing sites in the north or south of Taiwan's western coastline, and launch attacks to seize and occupy key targets or the entire island. In 2019, the PLA conducted joint amphibious assault exercises near Taiwan. Furthermore, China continues to build capabilities that would contribute to a full-scale invasion; in 2019, the PLA completed construction of its first helicopter dock amphibious assault ship (LHA).

Large-scale amphibious invasion is one of the most complicated and difficult military operations. Success depends upon air and maritime superiority, the rapid buildup and sustainment of supplies onshore, and uninterrupted support. An attempt to invade Taiwan would likely strain China's armed forces and invite international intervention. These stresses, combined with China's combat force attrition and the complexity of urban warfare and counterinsurgency, even assuming a successful landing and breakout, make an amphibious invasion of Taiwan a significant political and military risk.

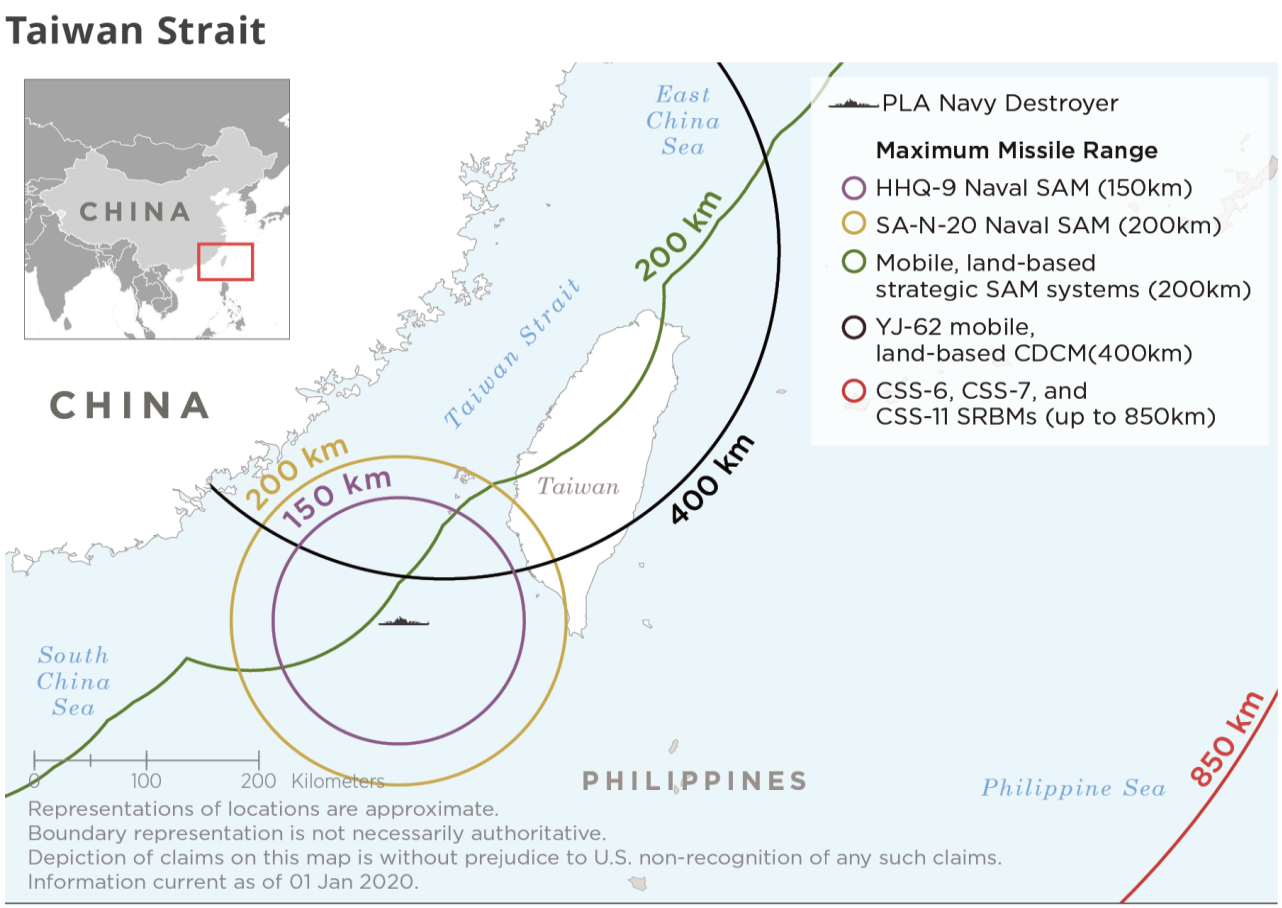
The PLA is capable of accomplishing various amphibious operations short of a full-scale invasion of Taiwan as well. With few overt military preparations beyond routine training, China could launch an invasion of small Taiwan-occupied islands in the South China Sea such as Pratas or Itu Aba. A PLA invasion of a medium-sized, better-defended island such as Matsu or Jinmen is within China's capabilities. Such an invasion would demonstrate military capability, political resolve, and achieve tangible territorial gain while simultaneously showing some measure of restraint. However, this kind of operation involves significant, and possibly prohibitive, political risk because it could galvanize pro-independence sentiment on Taiwan and generate international opposition.

Effect of PLA Reform on a Taiwan Contingency

One of the overarching goals of the structural reforms to reshape the PLA was to construct a military capable of conducting complex joint operations, including those that would be involved in a Taiwan contingency. PLA reforms seek to clarify command authorities, improving joint integration, and facilitating the transition from peace to war. The abolishment of military regions in favor of military theaters – in this case, the PLA's Eastern Theater Command – has also likely streamlined and improved the PLA's ability to conduct yearlong planning and preparation for joint military operations across the Taiwan Strait. PLA combat units are likely experiencing temporary decreases in readiness and proficiency to conduct large-scale joint operations as they reorganize units, integrate new capabilities, and adjust to new command structures.

A significant addition to the overall structure of the PLA is the establishment of the Strategic Support Force (SSF) and the Joint Logistic Support Force (JLSF). During a Taiwan contingency, the JLSF, in conjunction with subordinate joint logistics support centers, would coordinate joint logistics and the delivery of materiel as well as oversee various civil-military support systems to sustain the campaign. The creation of the SSF likely improves the PLA's ability to execute and coordinate IO (particularly cyber, EW, and counterspace) in a Taiwan contingency. It may also improve the PLA's ability to manage and provide space-based reconnaissance to the CMC and the Eastern Theater Command, improving PLA command staffs' situational awareness of Taiwan's military units and facilities. The PLA is likely still exploring how to reform its joint command processes to integrate IO and ISR capabilities more fully at the theater-level, but structural reforms have removed the biggest barriers to integrating these strategic capabilities at the theater-level.

Structural reforms within the military and paramilitary forces also have implications on resources and operational capabilities available to the PLA for a future Taiwan contingency.



THE PLA'S CURRENT POSTURE FOR A TAIWAN CONFLICT

PLA Army (PLAA). The PLAA continues to enhance its readiness to prevent Taiwan independence and execute an invasion if necessary. Through their design and training, the PLAA's restructured and improved combined-arms brigades prioritize maneuver, flexibility, and ability to deploy in different terrain environments while bringing ample firepower in combat scenarios beyond China's borders. The PLA Eastern Theater Command and Southern Theater Command field multiple amphibious combined-arms brigades in relatively close proximity to Taiwan. These amphibious combined-arms brigades are outfitted with specialized vehicles and equipment, including Type 05 amphibious infantry fighting vehicles, amphibious assault guns, and other multi-purpose amphibious vehicles.

PLAA units continue to conduct amphibious assault training in both single service and joint environments. Recent training involving PLAA amphibious elements and PLAN landing craft have likely sought to improve the tactical skills necessary to conduct an amphibious assault and provided experience to PLAA and PLAN leaders working together in a joint environment. As new systems proliferate and complex training continues, the PLAA will likely increase its ability to establish, defend, and exploit a beachhead lodgment.

Throughout 2019, the PLAA highlighted training opportunities within their aviation and air assault brigades. The PLAA's two air assault brigades provide increased attack, air assault, and close air support options for a Taiwan invasion. Additionally, the PLAA's ongoing fielding of advanced air defense, EW, and command and control (C2) systems enhances the combat power, force protection, and sustainment capabilities of its brigades, which are essential for successful invasion scenarios.

PLA Navy (PLAN). The PLAN is improving anti-air, anti-surface, and anti-submarine warfare capabilities, developing an at-sea nuclear deterrent, and introducing new multi-mission platforms capable of striking Taiwan's naval forces in a cross-Strait conflict as well as conducting diverse missions in other contingency operations. New attack submarines and modern surface combatants with anti-air capabilities and fourth-generation naval aircraft entering the force are designed to achieve maritime superiority within the First Island Chain as well as to deter and counter any potential third-party intervention in a Taiwan conflict. China's amphibious ship fleet, however, has in recent years focused on acquiring a modest number of ocean-going amphibious transport docks (LPDs) and now LHAs, indicating a near term focus on regional and eventually global expeditionary missions rather than the large number of landing ship transports and medium landing craft that would be necessary for a large-scale direct beach assault. There is also no indication China is significantly expanding its force of LSTs and medium sized landing craft at this time – suggesting a direct beach-assault operation requiring extensive lift is less likely in planning.

PLA Air Force (PLAAF). The PLAAF has maintained a force posture that provides a variety of capabilities for a Taiwan contingency. It has acquired a large number of advanced aircraft capable of conducting operations against Taiwan without requiring refueling, providing it with a significant capability to conduct air-superiority and ground-attack operations. A number of long-range air defense systems provide a strong layer of defense of China's mainland against counterattack. In addition, China's development of support aircraft provides the PLAAF with improved ISR capability to support PLA operations in a contingency.

PLA Rocket Force (PLARF). The PLARF is prepared to conduct missile attacks against high-value targets, including Taiwan's C2 facilities, air bases, radar sites, and others in an attempt to degrade Taiwan's defenses, neutralize Taiwan's leadership, or break the public's will to fight.

Strategic Support Force (SSF). PLA doctrinal writings emphasize the importance of space and cyberspace domains in joint operations. The PRC's 2019 defense white paper states that its armed forces are accelerating the build-up of its cyberspace capabilities, specifically its cyber defenses and its ability to detect and counter network intrusions. PLA writings suggest that the SSF would be responsible for the use of EW and cyber operations during a Taiwan contingency, as one of the missions of the force is "seizing and maintaining battlefield information control in contemporary informatized warfare." The SSF 311 Base would also be responsible for political and psychological warfare against Taiwan to influence public opinion and promote the PRC's interests.

Joint Logistic Support Force (JLSF). The JLSF's primary goal is to provide joint logistics support to the PLA's strategic and campaign-level operations, such as a Taiwan contingency, by conducting C2 of joint logistics, delivering materiel, and overseeing various support mechanisms.

China's Amphibious Capabilities

The PLA continues to make modest gains in amphibious warfare by developing additional capabilities to conduct amphibious landings and seize and defend small islands. The PLA has 12 units organized and equipped to conduct amphibious operations. Over the last five years, the PLAA and the PLA Navy Marine Corps (PLANMC) have fielded new equipment designed specifically for amphibious operations such as the ZBD-05 amphibious infantry fighting vehicle and the PLZ-07B amphibious self-propelled howitzer. The PLA has also made efforts to improve its ability to insert forces by air, restructuring the Airborne Corps and establishing Army air assault units, which would seize key terrain and interdict Taiwan counterattacks. Both PLAA and PLANMC units equipped for amphibious operations conduct regular company- to battalion-level amphibious training exercises, and the PLA continues to integrate aerial insertion training into larger exercises, to include dropping airborne troops from the Y-20 heavy-lift aircraft for the first time. However, the PLA rarely conducts amphibious exercises involving echelons above a battalion, though both PLAA and PLANMC units have emphasized the development of combined-arms battalion formations since 2012.

TAIWAN'S DEFENSIVE CAPABILITIES

Key Takeaways

- China's multi-decademilitary modernization effort has eroded or negated many of the military advantages that Taiwan has historically enjoyed the context of a cross-Strait conflict.
- To counter China's improving capabilities, Taiwan is developing new concepts and capabilities for asymmetric warfare.

Taiwan has historically enjoyed military advantages in the context of a cross-Strait conflict, such as technological superiority and the inherent geographic advantages of island defense, but China's multi-decade military modernization effort has eroded or negated many of these advantages. Although Taiwan is taking important steps to compensate for the growing disparities – building its war reserve stocks, growing its defense-industrial base, improving joint operations and crisis response capabilities, and strengthening its officer and noncommissioned officer corps – these improvements only partially address Taiwan's declining defensive advantages. Taiwan's Ministry of National Defense 2019 *National Defense Report* reflects adjustments to the military's strategy for defending the island, placing greater emphasis on protecting its littorals and near-shore coastal areas. The modified strategy stresses enhanced asymmetric capabilities, as well as suggesting greater reliance on Taiwan's Air Force and Navy. Taiwan's armed forces are authorized to fill approximately 215,000 billets, including 188,000 active duty billets. Reservists and civil defense volunteers support the active duty forces. The Ministry of National Defense has stated that its goal is to fill 90 percent of the billets (or approximately 169,000) by 2020. Taiwan's military modernization program envisions a continued decrease in Taiwan's active duty force to approximately 175,000 personnel as part of a transition to an all-volunteer force. This transition has slowed due to severe difficulties recruiting volunteers. The cost savings from manpower reductions provides some margin to improve individual pay and benefits, housing, and incentive pay; however, these savings have been insufficient to cover the full increase in manpower-related costs needed to attract and retain personnel under the new system. The unanticipated magnitude of transition costs has led Taiwan to divert funds from foreign and indigenous defense acquisition programs, as well as near-term training and readiness. Taiwan also faces considerable equipment and readiness challenges.

In addition, Taiwan's military spending remains at approximately two percent of its gross domestic product. In August 2019, Taiwan said it would increase the island's defense budget by 5.2 percent to NT $358 billion ($11.6 billion). Meanwhile, China's official defense budget continues to grow, and for 2019, is roughly 15 times that of Taiwan, with much of it focused on developing the capability to unify

Taiwan with the PRC by force. Recognizing the growing disparity between their respective defense expenditures, Taiwan has stated that it is working to develop new concepts and capabilities for asymmetric warfare. Some specific areas of emphasis include offensive and defensive information and EW, high-speed stealth vessels, shore-based mobile missiles, rapid mining and minesweeping, unmanned aerial systems, and critical infrastructure protection.

The United States maintains a "one-China" policy that is based on the Taiwan Relations Act (TRA) and the three Joint Communiqués. The United States opposes unilateral actions aimed at altering the status quo. The United States continues to support the peaceful resolution of cross-Strait issues in a manner, scope, and pace acceptable to both sides.

Consistent with the TRA, the United States contributes to peace, security, and stability in the Taiwan Strait by providing defense articles and services to enable Taiwan to maintain a sufficient self-defense capability. In May 2020, the White House publicly released a report to Congress entitled, *United States Strategic Approach to the People's Republic of China*. The report states, "Beijing's failure to honor its commitments under the communiques, as demonstrated by its massive military buildup, compels the United States to continue to assist the Taiwan military in maintaining a credible self-defense, which deters aggression and helps to ensure peace and stability in the region. In a 1982 memorandum, President Ronald Reagan insisted 'that the quantity and quality of the arms provided Taiwan be conditioned entirely on the threat posed by the PRC.'" In October 2019, Taiwan announced the purchase of F-16V fighter aircraft for $8 billion. Since 2010, the United States has announced more than $23 billion in arms sales to Taiwan.

4

THE PLA'S GROWING GLOBAL PRESENCE

Key Takeaways

- CCP leaders believe that the PRC's global activities, including the PLA's growing global presence, are necessary to create a "favorable" international environment for China's national rejuvenation.
- The CCP has tasked the PLA to develop the capability to project power outside China's borders and immediate periphery to secure the PRC's growing overseas interests and advance its foreign policy goals.

The CCP seeks to create international conditions that are conducive to the PRC's continued development and that are compatible with its aspirations for China's rejuvenation as a "great modern socialist country." CCP leaders believe that the PRC's global activities, including the PLA's growing global presence, contribute to creating a "favorable" international environment for China's national rejuvenation. This evolving approach parallels the Party's view that the initial decades of the 21st century represent a "period of strategic opportunity" to focus on building China's composite national power.

The CCP has tasked the PLA to develop the capability to project power outside China's borders and immediate periphery to secure the PRC's growing overseas interests and advance its foreign policy goals. China is focusing efforts to develop security relationships with key countries along its periphery and beyond the Second Island Chain. In addition to promoting the One Belt, One Road (OBOR) initiative, China almost certainly will seek new cooperative security partnerships with foreign nations, including the expansion of the PLA's global military attaché presence and access, and ensuring more reliable, cost-effective, and diverse sources of energy and other strategic resources.

The PRC probably will continue to expand the PLA's global military presence through humanitarian assistance, naval escorts and port calls, UN peacekeeping operations (PKO), arm sales, influence operations, and bilateral and multilateral military exercises. Through these engagements, Beijing can strengthen and expand its diplomatic relationships to advance its foreign policy goals, to include shaping the international system to align with the PRC's interests, and allow the PLA to gain operational experience.

CHINA'S ONE BELT, ONE ROAD (OBOR) INITIATIVE

Key Takeaways

- Beijing uses OBOR to support its strategy of national rejuvenation by seeking to expand global transportation and trade linkages to support its development and deepen its economic integration with nations along its periphery and beyond.
- The PRC's overseas development and security interests under OBOR will drive the PRC towards expanding its overseas military footprint to protect those interests.

First announced in 2013, China's OBOR initiative is a signature foreign and economic policy advanced by President Xi Jinping. Beijing uses OBOR to support its strategy of national rejuvenation by seeking to expand global transportation and trade linkages to support its development and deepen its economic integration with nations along its periphery and beyond. China implements OBOR by financing, constructing, and developing transportation infrastructure, natural gas pipelines, hydropower projects, digital connectivity, and technology and industrial parks worldwide. PRC leaders have touted the economic benefits of OBOR and invited foreign partners to join, promising wealth and prosperity to those nations that participate. Since its creation, over 125 countries have signed OBOR cooperation documents. OBOR-related spending is difficult to estimate because there is no comprehensive list of projects.

In support of its national strategy, the PRC pursues a range of goals through OBOR to include strengthening its territorial integrity, increasing its energy security, and expanding its international influence. Given the Party views the PRC's security and development interests as complementary, the PRC leverages OBOR to invest in projects along China's western and southern periphery to improve stability and diminish threats along its borders. Similarly, OBOR projects associated with pipelines and port construction in Pakistan intend to decrease China's reliance on transporting energy resources through strategic choke points, such as the Strait of Malacca.

The PRC attempts to use the economic influence it accrues through OBOR to encourage participating countries to support Beijing's priorities and objectives on a range of other matters. The PRC applies military, intelligence, diplomatic, and economic tools to counter perceived threats to OBOR's long-term viability, although the party-state lacks the expertise necessary to assess comprehensive risks in most OBOR participating countries. China's leaders have tried to counteract negative perceptions of OBOR to attract potential investors as well as reduce suspicions of Beijing's intentions. In the wake of domestic and international criticism of OBOR, China has attempted to appear more responsive to partner-country input, and open to wider participation. In April 2019, China hosted leaders from 37

countries and delegates from over 150 countries to the second Belt and Road Forum in Beijing. During the forum, PRC leaders attempted to respond to criticism and concerns over corruption, debt sustainability, environmental effects, and the CCP's underlying goals associated with OBOR.

As the PRC's overseas development and security interests expand under OBOR, the CCP has signaled that its overseas military footprint will expand accordingly to protect those interests, which the CCP recognizes may provoke pushback from other states. Some of OBOR's planned economic corridors would transit regions prone to violence, separatism, armed conflict, and instability, putting OBOR-related projects and PRC citizens working overseas at risk. China's defense and security outreach has sought to extend its ability to project military power to safeguard its overseas interests, including OBOR, by developing closer regional and bilateral counterterrorism cooperation, supporting host-nation security forces, and other means.

CHINA'S GLOBAL MILITARY ACTIVITIES

Key Takeaways

- The PRC has increasingly recognized that its armed forces should take a more active role in advancing its foreign policy goals.
- As the PRC's overseas interests have grown over the past two decades, the Party's leaders have increasingly pushed the PLA to think about how it will operate beyond China's borders and its immediate periphery to advance and defend these interests.
- In 2019, the PLA continued to expand its participation in bilateral and multilateral military exercises, normalize its presence overseas, and build closer ties to foreign militaries.

As the PRC's overseas interests have grown over the past two decades, the Party's leaders have increasingly pushed the PLA to think about how it will operate beyond China's borders and its immediate periphery to advance and defend these interests. More recently, the PRC has recognized that its armed forces should take a more active role in advancing its foreign policy goals. The PRC's 2019 defense white paper notably described its armed forces as responding, "faithfully to the call for a community with a shared future for mankind" and called on its military to "actively participate in the reform of global security governance system." In line with this direction, the PLA in 2019 continued to expand its participation in bilateral and multilateral military exercises, normalize its presence overseas, and build closer ties to foreign militaries. The PLA is increasingly likely to couch the purpose of its external activities in terms of providing direct support to the PRC's foreign policy goals, such as advancing China's strategic partnerships through greater military cooperation.

The PLA's Evolving Missions and Tasks. In 2004, one of the "new historic missions" given to the PLA by then-President Hu Jintao was to support China's overseas interests and diplomacy. The PLAN's evolving focus—from "offshore waters defense" to a mix of "offshore waters defense" and "open seas protection" —reflects the PLAN's interest in a wider operational reach. The PLAAF's missions and tasks have similarly evolved towards conducting operations beyond China and its immediate periphery and supporting the PRC's interests by becoming a "strategic" air force. Additionally, the PLA has embraced its concept of non-war military activities (NWMA) as an effective way for it lend support to and safeguard China's development, expand the PRC's global interests, and gain valuable operational experience.

The PLAN, PLAAF, PLAA, and SSF have deployed abroad for counterpiracy, humanitarian assistance and disaster relief (HA/DR), peacekeeping, training exercises, and space support operations. Within the PLA, the PLAN may have the most experience operating abroad due to its far seas deployments and counterpiracy missions, the PLAAF likely has the most experience conducting rapid response HA/DR operations abroad, and the PLAA has the most experience conducting PKO. The SSF runs tracking, telemetry, and command stations in Namibia, Pakistan, and Argentina. The SSF also has a handful of Yuan Wang space support ships to track satellite and intercontinental ballistic missile (ICBM) launches.

> Since 2008, PLAN ships have visited the Middle East, Europe, Africa, South Asia, Southeast Asia, Oceania, and Latin America. The PLAN has also conducted submarine deployments to the Indian Ocean, demonstrating its increasing familiarity with operating in that region and underscoring China's interest in protecting sea lines of communication (SLOCs) beyond the South China Sea. In 2015, three PLAN ships from a Gulf of Aden naval escort task force evacuated 629 PRC citizens from Yemen to Djibouti and Oman.

> Since 2002, the PLAAF has delivered aid after natural disasters throughout Southeast Asia and South Asia, assisted with evacuation from Libya in 2015, and searched for Malaysian aircraft MH370 in 2014.

Counterpiracy Efforts. In 2019, China continued to conduct counterpiracy operations in the Gulf of Aden by deploying its 31st, 32nd, and 33rd naval escort task forces to the area since 2008. The 32nd Task Force escorted 42 Chinese and foreign ships during its deployment and participated in the China-France military exchange and the Russian Navy Day festival celebrations. At the conclusion of deployments, these task groups conduct port calls and held bilateral engagements with host country militaries and local Chinese communities, providing additional opportunities for PLA military diplomacy. The 32nd Task Force conducted port calls to Mozambique and Malaysia.

Peacekeeping Operations. In 2019, China remained the largest troop contributor to UN peacekeeping missions among the permanent members of the UN Security Council. China uses it participation in UN PKO to highlight its role as a "responsible" global actor and to obtain operational experience for the PLA. The PLA uses its participation in PKO to refine its ability to operate beyond the PRC's borders. The PLA highlighted its peacekeeping contributions in the PRC's 70th anniversary parade in October 2019.

- China provides personnel to UN operations in Sudan, South Sudan, Mali, the Democratic Republic of the Congo, Western Sahara, Cyprus, Lebanon and elsewhere in the Middle East. PRC personnel deployed to PKO consist of troops, police, staff officers, and experts including engineers, medical professionals, and logisticians. In August 2019, the PLAA sent its third helicopter detachment to Sudan, transported by PLAAF heavy-lift transport aircraft, and in November 2019, sent its sixth peacekeeping infantry battalion to South Sudan.

- As of December 2019, China was the tenth-largest contributor to UN PKOs with approximately 2,545 personnel among eight UN PKO missions in Africa, Europe and the Middle East. China's personnel contributions have decreased slightly since 2018 from 2,634 personnel in January 2018 to 2,545 personnel in December 2019. China is the second largest contributor to UN PKO and funded 15.21 percent of the total $6.5 billion annual UN peacekeeping budget in 2019, an increase from 10.24 percent in 2018.

Military Cooperation. Recognizing the PLA's role in defending China's overseas interests and supporting its foreign policy, the PRC's 2019 defense white paper noted that the PLA "promotes international security and military cooperation and refines relevant mechanisms for protecting China's overseas interests." As the PRC's regional and international interests grow more complex, the PLA's international engagements will likely continue to expand. For example, senior-level military visits and exchanges provide the PLA with opportunities to increase its officers' international exposure, advance the PRC's foreign policy goals through military assistance programs, and develop professional relationships. Expanding travel abroad for PLA officers enables the PLA to better observe and study foreign military command structures, unit formations, and operational training and shape approaches to shared security concerns. In 2019, PRC Defense Minister General Wei Fenghe attended the Shangri-La Dialogue for the first time since 2011 and spoke on the PRC's role in the Indo-Pacific region.

The PRC continues to expand the PLA's participation in bilateral and multilateral military exercises, normalizing the PLA's presence overseas and establishing ties to foreign militaries. For example, in 2019 the PLA participated in Russia's national-level exercise TSENTR-19 along with forces from India,

Pakistan, Kyrgyzstan, Kazakhstan, Tajikistan, and Uzbekistan. To participate in the exercise, the PLA deployed 1,600 personnel from the Western Theater Command and nearly 30 fixed-wing aircraft and helicopters. For a list of selected PLA bilateral and multilateral exercises in 2019, see Appendix IV. In recent years, China has increased its military cooperation and engagements on security issues with the African Union (AU), with an emphasis on peacekeeping capacity building. In addition to providing PLA forces and other personnel to several UN PKOs in Africa, the PRC provides support to AU-sanctioned operations including the African Union Mission in Somalia (AMISOM) to which it has provided equipment and $1.2 million in annual funding. China also provided $100 million dollars of military equipment to the AU-supported African Standby Force's strategic stockpile at the Continental Logistics Base in Douala, Cameroon. In July 2019, the PRC Ministry of National Defense hosted the first China-Africa Peace and Security Forum in Beijing. Attended by defense and military representatives from 50 African countries, the forum sought to deepen China's role in African security issues and more broadly promote the PRC's foreign policy objectives to strengthen its strategic partnerships with African countries and further its concept of building a "community with a shared future for mankind."

CHINA-TAJIKISTAN COUNTERTERRORISM COOPERATION

Since at least 2016, People's Armed Police (PAP) forces have likely operated in Tajikistan, patrolling the tri-border region connecting Tajikistan, Afghanistan, and China. This is likely tied to the August 2016 creation of a quadrilateral counterterrorism coordination mechanism between Afghanistan, China, Pakistan, and Tajikistan to jointly strengthen border security against China's defined "three evils," terrorism, separatism, and religious extremism. PAP forces operating in Tajikistan are from Xinjiang province, likely also exporting its more suppressive approach to the "three evils."

- Although the agreement may initially have authorized combined patrols, China now appears to be conducting unilateral patrols in the tri-border region. The PLA is also expanding their cooperation with Tajikistan, notably expanding their bilateral counterterrorism exercise in 2019, including PLAAF fighters, fighter-bombers, unmanned aerial vehicles (UAVs), and combined close-air support with Tajik special operations forces (SOF).
- China's concerns about border stability were probably heightened after U.S. and NATO combat forces began withdrawing from Afghanistan in 2014, especially concerns over terrorists moving from Afghanistan into China's Xinjiang province. In 2015, China passed a counterterrorism law authorizing overseas military counterterrorism operations.

> In 2011, China and Tajikistan settled their border dispute in this region by Tajikistan ceding more than 300 sq. miles of land to China. Since 2016, China has also agreed to build guard outposts and a training facility in the tri-border region, with some reports suggesting the new outposts could number as high as 40.

PRC technology companies may also be collecting facial recognition data on Tajikistanis with the citywide facial recognition supplied since at least 2013, similar to the surveillance equipment installed in Xinjiang.

PLA OVERSEAS BASING AND ACCESS

Key Takeaways

> The PRC is seeking to establish a more robust overseas logistics and basing infrastructure to allow the PLA to project and sustain military power at greater distances.

> A global PLA military logistics network could both interfere with U.S. military operations and support offensive operations against the United States as the PRC's global military objectives evolve.

> Beyond its base in Djibouti, the PRC is very likely already considering and planning for additional military logistics facilities to support naval, air, and ground forces projection.

> The PRC has likely considered Myanmar, Thailand, Singapore, Indonesia, Pakistan, Sri Lanka, United Arab Emirates, Kenya, Seychelles, Tanzania, Angola, and Tajikistan as locations for PLA military logistics facilities.

The PRC is seeking to establish a more robust overseas logistics and basing infrastructure to allow the PLA to project and sustain military power at greater distances. Beijing may assess that a mixture of military logistics models, including preferred access to commercial infrastructure abroad, exclusive PLA logistics facilities with prepositioned supplies co-located with commercial infrastructure, and bases with stationed forces, most closely aligns with the PRC's overseas military logistics needs. Currently, the PRC uses commercial infrastructure to support all of its military operations abroad, including the PLA's presence in other countries' territories, including its base in Djibouti. Some of the PRC's OBOR projects could create potential military advantages, such as PLA access to selected foreign ports to pre-position the necessary logistics support to sustain naval deployments in waters as distant as the Indian Ocean, Mediterranean Sea, and Atlantic Ocean to protect its growing interests.

PRC official sources assert that military logistics facilities, to include its Djibouti base, will be used to provide international public goods like support to U.N. operations and HA/DR, and to secure China's lines of communication, citizens and assets abroad. Regardless, a global PLA military logistics network could both interfere with U.S. military operations and support offensive operations against the United States as the PRC's global military objectives evolve. Host nations can perform an essential role in regulating the PRC's military operations, as PRC officials very likely recognize that a stable long-term relationship with the host nation is critical to the success of their military logistics facilities.

- PRC military academics assert that bases abroad can enable forward deployment of PLA forces and support military conflict, diplomatic signaling, political change, bilateral and multilateral cooperation, and training. They also suggest that a military logistics network could enable intelligence monitoring of the U.S. military.

- In August 2017, the PRC officially opened its first PLA base in Djibouti. PLA Navy Marines are stationed at the base with wheeled armored vehicles and artillery but are currently dependent on nearby commercial ports due to the lack of a pier on base. PLA personnel at the facility have interfered with U.S. flights by lasing pilots and flying drones, and the PRC has sought to restrict Djiboutian sovereign airspace over the base.

Beyond its base in Djibouti, the PRC is very likely already considering and planning for additional military logistics facilities to support naval, air, and ground forces projection. The PLA's approach likely includes consideration of many different sites and outreach to many countries, but only some will advance to negotiations for an infrastructure agreement, status of forces or visiting forces agreement, and/or basing agreement. Critical organizations involved in planning and negotiating for military logistics facilities are the Central Military Commission (CMC) Joint Staff Department, CMC Logistic Support Department, and service headquarters. China's overseas military basing will be constrained by the willingness of potential host nations to support a PLA presence.

- The PRC has likely considered Myanmar, Thailand, Singapore, Indonesia, Pakistan, Sri Lanka, United Arab Emirates, Kenya, Seychelles, Tanzania, Angola, and Tajikistan as locations for PLA military logistics facilities. The PRC has probably already made overtures to Namibia, Vanuatu, and the Solomon Islands. Known focus areas of PLA planning are along the SLOCs from China to the Strait of Hormuz, Africa, and the Pacific Islands.

- Cambodia declined a U.S. offer to pay to renovate a U.S.-donated building on Ream Naval Base in Cambodia. Cambodia may have instead accepted assistance from China or another country to develop Ream Naval Base. If China is able to leverage such assistance into a presence at Ream Naval Base, it suggests that China's overseas basing strategy has diversified to include military

capacity-building efforts. Both the PRC and Cambodia have publicly denied having signed an agreement to provide the PLAN access to Ream Naval Base.

THE PRC'S INFLUENCE OPERATIONS

Key Takeaways

- The PLA has emphasized the development of its "Three Warfares" concept—comprised of psychological warfare, public opinion warfare, and legal warfare—in its operational planning since at least 2003.
- The PRC conducts influence operations to achieve outcomes favorable to its strategic objectives by targeting cultural institutions, media organizations, business, academic, and policy communities in the United States, other countries, and international institutions.
- The CCP seeks to condition domestic, foreign, and multilateral political establishments and public opinion to accept Beijing's narratives.
- CCP leaders probably consider open democracies, including the United States, as more susceptible to influence operations than other types of governments.

The PLA has emphasized the development of its "Three Warfares" concept—encompassing psychological warfare, public opinion warfare, and legal warfare—in its operational planning since at least 2003. Psychological warfare uses propaganda, deception, threats, and coercion to affect the adversary's decision-making, while also countering adversary psychological operations. Public opinion warfare disseminates information for public consumption to guide and influence public opinion and gain support from domestic and international audiences. Legal warfare uses international and domestic laws to gain international support, manage political repercussions, and sway target audiences. China views the cyberspace domain as a platform providing opportunities for influence operations, and the PLA likely seeks to use online influence activities to support its overall "Three Warfares" concept and to undermine an adversary's resolve in a contingency or conflict.

The PRC conducts influence operations by targeting cultural institutions, media organizations, business, academic, and policy communities in the United States, other countries, and international institutions. CCP leaders probably consider open democracies, including the United States, as more susceptible to influence operations than other types of governments. The PRC's influence operations are coordinated at a high level within the party-state and executed by a range of actors, such as the United Front Work Department, the Propaganda Ministry, the State Council Information Office, the PLA and the Ministry of State Security (MSS). The CCP has a long history of using influence

operations for domestic purposes, including "United Front Work" prior to the formulation of the PRC and onwards, to co-opt and align non-Party actors in society. The CCP utilizes United Front actors to advocate for the PRC's sovereignty interests within China and abroad.

A cornerstone of the CCP's approach to influence operations includes appealing to PRC citizens living overseas and members of Chinese diaspora populations, regardless of their citizenship, to advance the Party's objectives. The PRC also sometimes uses coercion or blackmail to manipulate its citizens overseas to conduct influence operations on behalf of the PRC, such as threatening ethnic Uyghurs living in the United States with imprisonment of their family members in China. The PRC's intelligence services often facilitate these operations. Additionally, the PRC targets individuals in other countries to support its acquisition of foreign technology. The PRC's "Thousand Talents Program" seeks to recruit individuals primarily, but not exclusively, from relevant diaspora populations and recent emigrants from the PRC, as well as foreign national experts whose recruitment the PRC views as necessary to its scientific and technical modernization, especially with regard to defense technology.

The PRC uses its so-called "5 cent army" to spread Party-approved narratives abroad via social media. These posts promote positive narratives of the PRC and support Beijing's programs to try to influence public opinion towards the pro-China perspectives. In August 2019, Facebook and Twitter announced they had deleted accounts associated with the PRC that were promoting disinformation regarding the protests in Hong Kong.

The CCP seeks to condition domestic and foreign publics to accept Beijing's narratives surrounding its priorities like OBOR and South China Sea territorial and maritime claims. Furthermore, the PRC seeks to harness academia and educational institutions, think tanks, and state-run media to advance its soft power campaign in support of the PRC's interests. For example, the PRC uses its citizens studying abroad and academic organizations to spread the Party's narrative on Tibet and the Dalai Lama. Chinese Students and Scholars Associations and Confucius Institutes organize events to support the PRC's sovereignty claims. They also organize protests and lodge complaints against academic institutions that fail to comport with the Party's narratives.

The PRC's foreign influence activities also focus on establishing and maintaining influence with power brokers within foreign governments to promote policies that Beijing views will facilitate its national rejuvenation, despite the PRC's public position that it does not interfere in the internal affairs of other countries. China's diplomatic outreach stresses building personal rapport with influential people, providing assistance, and emphasizing "win-win cooperation" through trade and diplomacy. This approach allows China to offer expedited, small-scale accomplishments to partners abroad, often in exchange for seemingly symbolic gestures of support to the PRC's long-term strategic goals. Some

countries have begun to implement policy responses to the PRC's influence activities, including within the European Union as well as Australia and New Zealand.

The PRC uses multilateral forums and international organizations to generate new opportunities to expand its influence, strengthen its political influence, promotes strategic messaging that portrays it as a responsible global actor, advance its development interests, and limit outside interference in and criticism of its initiatives. Towards these ends, the PRC has embraced multilateral organizations such as Brazil, Russia, India, China, and South Africa (BRICS), the Shanghai Cooperation Organization, the African Union (AU), the Association of Southeast Asian Nations (ASEAN), as well as forums and initiatives such as the Forum on China-Africa Cooperation (FOCAC), the China-Arab States Cooperation Forum, the "17+1" initiative between China and 17 Central and Eastern European countries, and the Belt and Road Forum.

CHINA IN THE ARCTIC

Key Takeaway

> In May 2019, the PRC hosted the Arctic Circle China Forum in Shanghai and PRC officials highlighted the PRC's interest in expanding its partnership with countries along what it calls the "Polar Silk Road."

The PRC has increased activities and engagement in the Arctic region since gaining observer status in the Arctic Council in 2013. In May 2019, the PRC hosted the Arctic Circle China Forum in Shanghai and PRC officials highlighted the PRC's interest in expanding its partnership with countries along what it calls the "Polar Silk Road." In January 2018, the PRC published its first Arctic strategy that first promoted a "Polar Silk Road" and declared China to be a "near-Arctic State." The strategy identifies the PRC's interests, which include access to natural resources and SLOCs, and the promotion of an image of the PRC as a "responsible major country" in Arctic affairs that "aims to contribute its wisdom to the development of the Arctic region." The strategy highlights China's icebreaker vessels and research stations as integral to implementation.

China maintains research stations in Iceland and Norway and operates two icebreaking research vessels. In 2017, the Ukrainian-built Xue Long became China's first official vessel to traverse the Northwest Passage. In late September 2019, Xue Long completed the 10th Arctic expedition that focused on research on the Arctic environment. Last year, China launched its second icebreaking research vessel, Xue Long 2. Xue Long 2 can break ice 1.5 meters thick, compared to Xue Long 1's maximum of 1.2 meters. Furthermore, Xue Long 2 is the first polar research vessel that can break ice while moving forwards or backwards. In 2019, Xue Long 2 set sail on its maiden voyage to the

Antarctic. The PRC's SOEs are probably in the very early stages of developing China's first nuclear-powered icebreaker; however, it is unclear when the vessel will be completed.

The PRC's expanding Arctic engagement has created new opportunities for engagement between China and Russia. In April 2019, China and Russia established the Sino-Russian Arctic Research Center. In 2020, China and Russia plan to use this center to conduct a joint expedition to the Arctic to research optimal routes of the Northern Sea Route and the effects of climate change. The PRC will cover 75 percent of the expedition's expenses.

Russian regulations governing the passage along the Northern Sea Route requires foreign states' warships to give Russia 45 days' notice of their intention to follow this route, to have a Russian pilot on board, and to be subject to Moscow's decision to refuse passage through the Northern Sea Route. This regulation potentially restricts the PLAN's ability to operate in the Arctic. China and Russia support further civilian cooperation between Sino-Russian enterprises in the use of the Northern Sea Route, and the Arctic region is an area of opportunity for Sino-Russian commercial cooperation in addition to energy development and infrastructure projects such as the Yamal LNG project and LNG 2.

CHINA'S HYDROCARBON STRATEGY

Key Takeaway

> China's interest in ensuring reliable, cost-effective, and diverse energy sources to support its economic growth drives its overseas investments.

China's interest in ensuring reliable, cost-effective, and diverse fuel sources to support and sustain its economic development has led it to import petroleum and gas from more than 40 countries. In 2019, China imported approximately 10.1 million barrels per day of crude oil, which met approximately 77 percent of its needs. Also in 2019, China met 43 percent of its natural gas demand with imports, which the IEA projects will grow to 46 percent by 2035. Most of China's oil and natural gas imports come primarily from the Persian Gulf, Africa, Russia, and Central Asia. China's energy investments will help diversify transport networks for oil and gas, which could help reduce dependency on strategic chokepoints, such as the Strait of Malacca.

China relies on SLOCs such as the South China Sea and Strait of Malacca for most of its hydrocarbon deliveries. In 2019, approximately 77 percent of China's oil imports and 10 percent of its natural gas imports transited the South China Sea and Strait of Malacca. Despite China's efforts to diversify energy

suppliers, the sheer volume of oil and liquefied natural gas imported from the Middle East and Africa will make securing strategic SLOCs a priority for China for at least the next 15 years.

Crude oil pipelines from Russia and Kazakhstan to China demonstrate China's interest in increasing overland supply. In early 2019, China's 600,000-barrels-per-day pipeline from Russia made up approximately 6 percent of all crude oil imports. In April 2017, Burma and China commissioned a new crude oil pipeline. This 440,000-barrels-per-day pipeline bypasses the Strait of Malacca by transporting crude oil from Kyaukpyu, Burma, to Kunming, China. Middle Eastern and African countries supplied the crude oil for this pipeline.

In 2019, approximately 34 percent of China's natural gas imports (45 billion cubic meters) came from Turkmenistan by a pipeline that runs through Kazakhstan and Uzbekistan. This pipeline can transport 55 billion cubic meters per year, and Turkmenistan and China plan to expand it to 80 billion cubic meters per year in 2020. A natural gas pipeline connecting China to Burma can deliver 12 billion cubic meters per year, but only 4.6 billion cubic meters of gas was shipped in 2019. In early December 2019, the first phase of the Power of Siberia natural gas pipeline was commissioned, transporting natural gas from Russia's Chayandinskoye gas field to China's border in Amur Oblast. The contract for this pipeline is for 30 years and stipulates that 38 billion cubic meters of natural gas be delivered to China each year. A list of China's top crude suppliers in 2019 is provided in Appendix III.

MILITARY ATTACHÉ PRESENCE

China manages its day-to-day overseas military diplomacy work using PLA officers assigned as military attachés in over 110 offices worldwide. China's military attaché presence has grown around the world, which reflects China's increasing global interests. China's military attachés serve as military advisors to the ambassador, support Ministry of Foreign Affairs and PLA foreign policy objectives, and perform a variety of duties tied to PLA military and security cooperation, including counterpart exchanges with host-nation and third-country personnel. Military attachés also conduct clandestine and overt intelligence collection on their countries or areas of assignment. Although the general function of an attaché office is the same worldwide, some attaché offices probably prioritize specific missions or diplomatic priorities due to close bilateral relations or other factors.

China's military attaché offices vary in size, generally ranging from two to ten PLA officers. Most offices consist of just a few accredited officers; however, offices in countries considered important to China's strategic interests are often considerably larger, potentially including multiple assistant attachés, dedicated naval or air force attachés, and support staff.

CHINA-RUSSIA RELATIONS

In June 2019, Russia and China upgraded their relations to a 'comprehensive strategic partnership of coordination in a new era," pledging closer coordination on global security issues and mutual support. This was followed by the PLAAF and the Russian Aerospace Force conducting their first combined air patrol in the Asia-Pacific region. For the second year in a row, China participated in a Russian strategic command and staff exercise, TSENTR-2019, held this year in the Russian Central Military District. Additionally, cooperation between the two militaries includes joint defense technology development, exercises, and cooperation on other military modernization initiatives. Despite continued military cooperation, the PRC and Russia have denied the creation of a military alliance or their intent to enter into an alliance.

TSENTR-2019. From mid-late September, China participated in Russia's strategic command-staff exercise, TSENTR-2019, along with armed forces elements from India, Pakistan, Kyrgyzstan, Kazakhstan, Tajikistan, and Uzbekistan. The aim of the exercise was to test readiness levels of the Russian military and interoperability among regional partners, while simulating a response to terrorist threats in Central Asia. China represented the largest foreign contingent, deploying about 1,600 ground and air troops from the PLA's Western Theater Command and nearly 30 fixed-wing aircraft and helicopters, including H-6 bombers. During the exercise, China and Russia conducted ground maneuvers and Chinese and Russian aircraft may have conducted missile and bombing strikes on mock enemy targets. The PRC's Minister of Defense Wei observed part of the exercise alongside the Russian defense minister and President Vladimir Putin, commenting on the increased level of China-Russia cooperation. Following last year's VOSTOK exercise, TSENTR marked the second consecutive year that China has participated in Russia's command-staff capstone exercise series.

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RESOURCES AND TECHNOLOGY FOR FORCE MODERNIZATION

Key Takeaways

- The PRC's long-term goal is to create an entirely self-reliant defense-industrial sector—fused with a strong civilian industrial and technology sector—that can meet the PLA's needs for modern military capabilities.
- The PRC has mobilized vast resources in support of its defense modernization, including the implementation of its Military-Civil Fusion (MCF) Development Strategy, as well as espionage activities to acquire sensitive, dual-use, and military-grade equipment.
- In 2019, the PRC announced its annual military budget would increase by 6.2 percent, continuing more than 20 years of annual defense spending increases and sustaining its position as the second-largest military spender in the world. The PRC's published military budget omits several major categories of expenditures and its actual military-related spending is higher than what it states in its official budget.

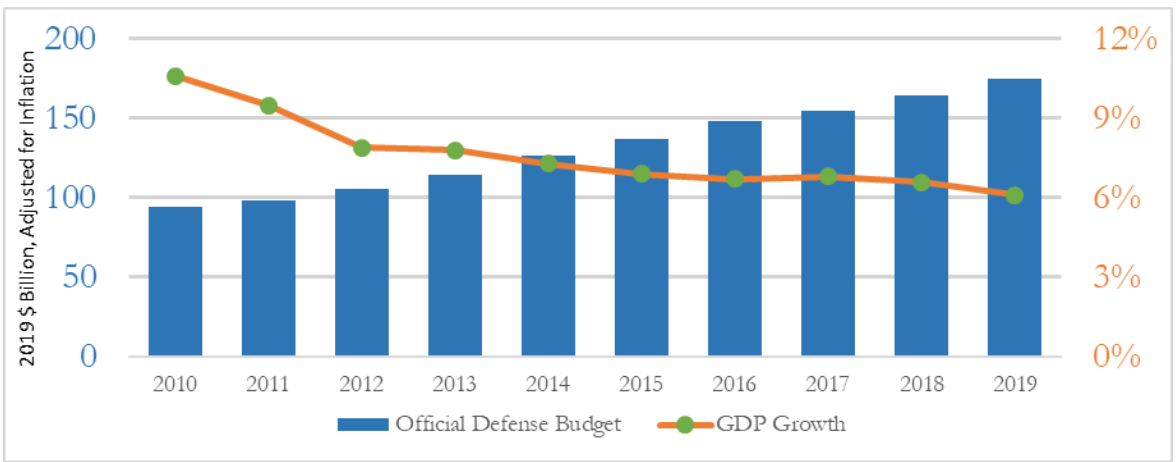
In spite of forecast difficulties for China's economic growth in the 2020s, the Party has the political will and fiscal strength to sustain a steady increase in defense spending over the next decade, which will help support People's Liberation Army (PLA) modernization, develop a fused military-civilian defense industry, and explore new technologies with defense applications. The PRC draws from diverse sources to support PLA modernization, including domestic defense investments, domestic defense-industrial development, a growing R&D and S&T base, dual-use technologies conveyed in part through its MCF strategy, and the acquisition of foreign technology and expertise.

The PRC's long-term goal is to create an entirely self-reliant defense-industrial sector—fused with a strong civilian industrial and technology sector—that can meet the PLA's needs for modern capabilities. However, the PLA still looks to import foreign equipment, technologies, and knowledge to fill some critical, near-term capability gaps and accelerate its modernization. The PRC leverages foreign investments, commercial joint ventures, mergers and acquisitions, academic exchanges, the foreign experience that students and researchers from the PRC gain from studying in foreign nations, and state-sponsored industrial and technical espionage, and the manipulation of export controls for the illicit diversion of dual-use technologies to increase the level of technologies and expertise available to support military research, development, and acquisition.

MILITARY EXPENDITURES TRENDS

In early 2019, the PRC announced a 6.2-percent inflation-adjusted increase in its annual military budget to $174 billion, which is approximately 1.3 percent of gross domestic product. This year's budget continues more than 20 years of annual defense spending increases and sustains the PRC's position as the second-largest military spender in the world after the United States. The PRC's defense budget has nearly doubled during the past 10 years—data from 2010 through 2019 indicates China's official military budget grew at an annual average of approximately 8 percent in inflation-adjusted terms. Based on its official defense spending figures, which omit several major categories of expenditures, the PRC can support continued growth in defense spending for at least the next five to ten years, based on economic data and growth projections.

China: Official Defense Budget, 2010–2019



China's Estimated Military Expenditures. The PRC's published military budget omits several major categories of expenditures, including R&D and foreign weapons procurement. In 2019, China's actual military-related spending could be more than $200 billion, much higher than stated in its official budget. However, actual military expenses are difficult to calculate, largely because of China's poor accounting transparency.

China's Estimated Defense Budget Growth. If China's official defense budget increases annually by an average of 6 percent, growing to $270 billion by 2023, the PLA can dedicate more money for training, operations, and modernization considering the reduction of the PLA's size by 300,000 people. Economic forecasters project that China's economic growth will slow during the next 10 years, falling from 6.1 percent in 2019 to 3 percent in 2030, which could slow future defense spending growth. Assuming accurate economic projections and a steady defense burden, China will remain the second-largest spender after the United States.

Regional Comparison of the PRC's 2019 Official Defense Budget
(adjusted for inflation)

	Billion (USD)
PRC (official budget)	$174.0
India	$61.7
Japan	$53.9
Russia (national defense budget)	$54.8
South Korea	$39.8
Taiwan	$10.9

DEVELOPMENTS AND TRENDS IN CHINA'S DEFENSE SYSTEM

Key Takeaways

- China has substantially reorganized its defense-industrial sector to improve weapon system research, development, acquisition, testing, evaluation, and production.
- China's Military-Civil Fusion (MCF) Development Strategy is a key part of its defense sector reform.

S&T Industry and Innovation: China has substantially reorganized its defense-industrial sector to improve weapon system research, development, acquisition, testing, evaluation, and production. As part of the 13th Five-Year Plan (2016–2020), China implemented a number of critical reforms with the objective of increasingly its competitiveness in key defense industries. Focus areas include aerospace engines—including turbofan technology—and gas turbines; quantum communications and computing; innovative electronics and software; automation and robotics; special materials and applications; nanotechnology; neuroscience, neural research, and artificial intelligence (AI); and deep-space exploration and on-orbit servicing and maintenance systems. China also is applying substantial R&D resources to nuclear fusion, hypersonic weapons technology, and the deployment and hardening of its expanding multipurpose satellite constellation.

- In 2016, the Central Military Commission (CMC) established the Science and Technology Commission, an independent high-level defense research body subordinated to the CMC. The Science and Technology Commission organizes and guides cutting-edge technological innovation in military technology and seeks to increase the pace of military technology development to modernize the PLA using both civilian and military S&T resources.
- In early 2017, the PLA set up the Scientific Research Steering Committee, which is subordinate to the CMC, consisting of scientists and engineers that have experience with cutting-edge technologies. Modeled on the U.S. Defense Advanced Research Projects Agency, this agency seeks to fuel technological innovations with military applications. Along with the Science and Technology Commission, the steering committee will spearhead S&T innovation by advising the CMC on early-stage research projects.
- In July 2017, China reorganized the PLA's top three academic institutes—the PLA Academy of Military Science (AMS), National Defense University, and National University of Defense Technology—as part of its PLA reform initiative. Under the new structure, AMS will focus on

scientific research related to military affairs, facilitating closer ties between military theory and S&T development.

> China's MCF Development Strategy is a key part of China's defense sector reform. China emphasizes assimilating private sector innovation into the defense-industrial base. Responsibility for MCF was centralized in 2017 with the establishment of the Central Commission for Integrated Military and Civilian Development, which is subordinate to the CCP Central Committee.

Two of the most influential proponents in promoting and enforcing China's, S&T initiatives are the State Administration for Science, Technology, and Industry for National Defense and the CMC's Equipment Development Department, which monitor and guide the state and military sides of China's defense-industrial apparatus, respectively. The Equipment Development Department and its military service counterparts cooperate with China's 10 state-owned defense-industrial corporations through a network of military representative bureaus and offices to supervise quality control and defense contract compliance.

The National Science Foundation of China (NSFC), the China Academy of Sciences (CAS), and the Ministry of Science and Technology are key to S&T decision making and funding and to promoting basic and applied research, scientific innovation, and high-tech integration throughout China's scientific, engineering, and civil-military industrial complex. CAS is China's highest academic institution for comprehensive R&D in the natural and applied sciences, and it reports directly to the State Council in an advisory capacity. CAS works closely with NSFC, and much of its work contributes to products for military use. The NSFC and CMC Science and Technology Commission are key advisers on emerging and disruptive technologies and signed a five-year strategic cooperation agreement in August 2016 to collaborate on civil-military innovation and basic research for national defense.

Artificial Intelligence. China views AI as critical to its future military and industrial power. China is making strategic investments worldwide in AI to reap national security and economic benefits. AI is a central component in many of China's publicly released national plans. The Next Generation AI Plan details China's AI strategy and outlines China's goals of using commercial and military entities to gain parity with the world leaders in AI by 2020, achieving major breakthroughs in AI by 2025, and establishing China as the global leader in AI by 2030. The PRC is pursuing a whole-of-society effort to become a global leader in AI, which includes designating select private AI companies in China as "AI champions" to emphasize R&D in specific dual-use technologies. Many of these "AI champions," including Huawei and Hikvision, are major suppliers of AI surveillance technology worldwide. In 2019, the private PRC-based company Ziyan UAV exhibited armed swarming drones that it claimed use AI

to perform autonomous guidance, target acquisition, and attack execution. During the past five years, China has made achievements in AI-enabled unmanned surface vessels, which China plans to use to patrol and bolster its territorial claims in the South China Sea. China has also tested unmanned tanks as part of research efforts to integrate AI into ground forces' equipment.

MILITARY INDUSTRIAL BASE TRENDS

Key Takeaways

- Many of China's missile programs are comparable to other international top-tier producers; China can use aspects of the S-400 surface-to-air missile (SAM) system it began receiving from Russia in 2018 to reverse-engineer capabilities it lacks.
- China is the top ship-producing nation in the world by tonnage and has the capability to produce naval gas turbine and diesel engines as well as shipboard weapons and electronic systems, which makes it nearly self-sufficient for all shipbuilding needs.

Missile and Space Industry. Most of China's missile programs, including its ballistic and cruise missile systems, are comparable in quality to other international top-tier producers. China produces a wide range of missiles—ballistic, cruise, air-to-air, and surface-to-air—for the PLA and for export, and it continues to expand its missile test facilities. The PRC publicly debuted a new supersonic cruise missile and hypersonic glide vehicle during the 70th anniversary parade in October 2019. Also in 2019, China tested and deployed the advanced S-400 SAM systems it received from Russia in 2018. In 2018, China highlighted the development of its first beyond-visual-range air-to-air missile (AAM).

The PRC's space industry, historically managed by the PLA, is rapidly expanding its intelligence, surveillance, and reconnaissance (ISR), navigation and communication satellite constellations and making substantial strides in its space launch capabilities, human spaceflight, and lunar exploration programs. However, the PRC is placing greater emphasis on decentralizing and diversifying its space industry to increase competition, resulting in a complex structure of military, political, defense-industrial, and commercial sectors. China has developed a "quick response" space launch vehicle (SLV) to increase its attractiveness as a commercial small satellite launch provider and to rapidly reconstitute low Earth orbit space capabilities; its mixed-ownership enterprises offer remote sensing, launch, and communication services.

Naval and Shipbuilding Industry. China, the top ship-producing nation in the world by tonnage, is increasing its shipbuilding capacity and capability for all naval classes, including submarines, surface combatants, and transport and amphibious ships. China's two largest state-owned shipbuilders—the

China State Shipbuilding Corporation and the China Shipbuilding Industry Corporation, merged in November 2019 creating the world's largest shipbuilder as measured by production capacity. China domestically produces its naval gas turbine and diesel engines, as well as almost all shipboard weapons and electronic systems, making it nearly self-sufficient for all shipbuilding needs.

Armaments Industry. China's production capacity is improving in nearly every category of PLA ground systems, including armored personnel carriers, assault vehicles, air defense artillery systems, artillery systems and pieces, and main and light battle tanks. Notably, China began testing unmanned Type 59 tanks in November 2018. China can produce ground weapon systems at or near world-class standards; however, quality deficiencies persist with some exported equipment, which is inhibiting China's ability to expand its export markets.

Aviation Industry. China is advancing its domestic aviation industry through two major state-owned aircraft corporations, AVIC and the Commercial Aircraft Corporation of China (COMAC). AVIC designs and produces China's military aircraft including the J-20 fifth-generation fighter, the Y-20 large transport, and the future H-20 flying wing stealth bomber. COMAC produces large passenger aircraft and aims to compete in the commercial airliner market. COMAC is producing the ARJ21 regional jet, flight-testing the C919 airliner, and working with Russia to develop the CR929 wide-body airliner. China is the second-largest exporter of UAVs. However, China's aviation industry is unable to produce reliable high-performance aircraft engines and relies on Western and Russian engines, such as the Franco-American CFM Leap 1C that powers the COMAC C919 and the Russian D-30 that powers the Y-20 and H-6K and H6-N variants. China is developing the CJ-1000, AEF3500, and WS-20 high-bypass turbofan engines to power the C919, CR929, and Y-20, respectively.

S&T GOALS IN SUPPORT OF MILITARY MODERNIZATION

Key Takeaways

- China's effort to build national corporate champions that achieve rapid market dominance across a range of technologies directly complements the PLA's modernization efforts. The PRC intends to leverage its commercial sector to realize the PLA's modernization goals.
- China seeks to become a leader in key technologies with military potential, such as AI, autonomous systems, advanced computing, quantum information sciences, biotechnology, and advanced materials and manufacturing. China's implementation of AI and a quantum communication network demonstrates the speed and scale with which it intends to deploy certain emerging technologies.

- China has mobilized vast resources to fund research and subsidize companies involved in strategic S&T fields while pressing private firms, universities, and provincial governments to cooperate with the military in developing advanced technologies. China has also reorganized its military research institutions and key military think tanks to provide the PLA advanced capabilities and a modern warfighting doctrine.
- The PRC continues to undermine the integrity of the U.S. S&T research enterprise through a variety of actions such as hidden diversions of research, resources, and intellectual property.

China's S&T Goals and Plans. The PRC has issued an array of major national plans over the last decade that stress indigenous innovation and the rapid development of strategic S&T sectors, such as information and communications technology (ICT), high-end manufacturing, quantum technology, alternative energy, and biotechnology. The PRC's 13th Five-Year Plan calls for accelerating research on "majorly influential disruptive technologies" and the pursuit of "leapfrog" S&T developments in order to win "a competitive advantage in the new round of industry transformation." While slowly increasing funding for basic research, China has made comprehensive efforts to grow the country's inventive capabilities over the last decade.

- The 2017 National Artificial Intelligence Plan describes steps for China to become the "world's major AI innovation center" by 2030 and calls for the country to accelerate the integration of AI with the economy, society, and national defense. The plan foresees a great expansion in the "breadth and depth of AI applications in… national defense construction."
- Other plans address the development of various sectors of China's robust Internet ecosystem, including cloud computing, big data, e-commerce, and next-generation broadband wireless communications networks, including fifth-generation (5G) wireless networks. Due to information sharing requirements with the PRC's security services as required by PRC laws, worldwide expansion of 5G networks by PRC companies will challenge the security and resiliency of other countries' networks.

The commercial sector increasingly drives breakthroughs in advanced dual-use technologies, and PRC companies have research efforts aimed at generating breakthroughs in emerging technologies. China continues to execute "Made in China 2025," an ambitious industrial policy centered around "smart manufacturing," that seeks to create a vanguard of corporations in the PRC that are global leaders in ten strategic industries. These industries include new generation information technology, high-grade machine tooling and robotics; aerospace equipment; marine engineering equipment and high-tech ships; advanced rail transportation equipment; new-energy automobiles; electric power equipment; agricultural equipment; new materials; and biomedicine and high-tech medical devices. The plan

stresses the need to replace imported technology with domestically produced technology, a goal that corresponds with China's desire to reduce its reliance on other nations and develop a fully indigenous defense sector. In addition to presenting an economic challenge to nations that export high-tech products, the plan directly supports China's military modernization goals by stressing proprietary mastery of advanced dual-use technologies. China's leaders have used less inflammatory rhetoric regarding "Made in China 2025" in response to concerns from advanced industrial countries regarding the PRC's licit and illicit acquisition of intellectual property pursuant to that policy.

Heavy Government and Corporate Sector Investment. The PRC has mobilized vast resources to fund research and subsidize companies involved in strategic S&T fields while pressing private firms, universities, and provincial governments to cooperate with the military in developing advanced technologies. Although China remains reliant on certain types of foreign technology, the country's decades-long execution of a strategy of advancing domestic S&T and R&D through large-scale technology transfer has deepened the expertise of scientists and engineers in the PRC and placed them at, or near, the forefront of many scientific fields.

- The PRC's state investment funds established to support priority industries have marshalled hundreds of billions of dollars in capital.
- China expects to field an exascale computer based on domestically produced technology by 2020, ahead of the United States, the European Union, and Japan.
- China conducted the first quantum-secured intercontinental videoconference in September 2017 and plans to have a satellite-enabled, global, quantum-encrypted communications capability operational by 2030. China is also reportedly building the world's largest quantum research facility slated to open in the city of Hefei in 2020. China already has a 2,000 km secure quantum communication ground line between Beijing and Shanghai and plans to expand the line across China.
- In 2019, scientists in the PRC claimed to have developed a human brain-computer interface to send targeting information directly to a search-and-rescue drone. Also in 2019, a separate group of scientists claimed to have developed a brain-computer interface that enabled human-thought control of a rat in a maze, signifying China's interest advanced human-machine teaming technologies.

China's private sector, led by Internet companies Baidu, Alibaba, and Tencent and telecommunications equipment manufacturers Huawei and Zhongxing Telecommunications Company Ltd. (ZTE), is driving the development of emerging technologies, such as facial recognition

and 5G, by establishing innovation centers and funding technology startups, or in the case of 5G, competing to build the world's next-generation networks. PRC technology companies are also expanding into overseas markets, in some cases by offering smart city technologies, a development that could increase their access to foreign talent and data.

> In 2017, China designated Alibaba, Baidu, iFlytek, and Tencent as the country's official "AI Champions," with SenseTime joining in 2018. This designation gives these companies the lead for setting national technical standards and enables extensive cooperation with China's national security community. In 2019, China added ten new companies, including Huawei, Hikvision, Megvii, and Yitu, to the champions list.

> In November 2017, the PRC startup Yitu won a U.S. government-sponsored competition involving facial recognition technology. Yitu, along with other PRC AI and facial recognition firms like SenseTime, Megvii, and Deepglint, reportedly received hundreds of millions of dollars in investments in 2017. China is the world's largest market for video surveillance technologies.

> The 2017 National Intelligence Law requires PRC companies, such as Huawei and ZTE, to support, provide assistance, and cooperate in China's national intelligence work wherever they operate.

Potential Military Applications. China's pursuit of an innovation-driven economic model supports its goal of building a "modern and specialized military capable of fighting and winning wars in the information age." China intends to harness its commercial technology sector to accomplish the PLA's goal of intelligentized warfare. The PLA has reorganized a key military think tank—the Academy of Military Sciences (AMS)—and reasserted this organization's leadership of military science research programs. The CMC has tasked the revamped AMS to drive defense innovation, conduct enhanced academic outreach, and to ensure that the PLA's warfighting theory and doctrine fully capitalize on disruptive technologies like AI and autonomous systems.

> Researchers at the China Academy of Sciences reportedly developed an early version of an AI-powered decision-support system that the PRC Ministry of Foreign Affairs is field-testing with its diplomats. The system uses deep learning and a neural network for "geopolitical environment simulation and prediction."

The PRC is pursuing a number of advanced military capabilities with disruptive potential such as hypersonic weapons, electromagnetic railguns, directed energy weapons, and counterspace capabilities. The country's effort to build national corporate champions that achieve rapid market dominance across a range of frontier technologies directly complements the PLA's modernization efforts and

carries serious military implications. Given China's willingness to deploy emerging technologies rapidly and at massive scale as well as China's focus on MCF, the PLA would likely quickly benefit from any scientific breakthroughs with military utility. Potential military applications of some emerging technologies include:

- *AI and Advanced Robotics*: enhanced data exploitation, decision support, manufacturing, unmanned systems, and command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR).
- *Semiconductors and Advanced Computing*: enhanced cyber operations and weapons design, and shortened R&D cycles.
- *Quantum Technologies*: secure global communications, enhanced computing and decryption capabilities, undersea target detection, and enhanced submarine navigation.
- *Biotechnology*: enhanced warfighter selection and performance, advanced human-machine teaming.
- *Hypersonic and Directed Energy Weapons*: global strike and defeat of missile defense systems, anti-satellite (ASAT)/missile/ unmanned aircraft system capabilities.
- *Advanced Materials and Alternative Energy*: improved military equipment and weapon systems.

FOREIGN TECHNOLOGY ACQUISITION

Key Takeaways

- The PRC pursues many vectors to acquire foreign technologies, including both licit and illicit means. The PRC's efforts include a range of practices and methods to acquire sensitive and dual-use technologies and military-grade equipment to advance its military modernization goals.
- The PRC leverages foreign investments, commercial joint ventures, mergers and acquisitions, and state-sponsored industrial and technical espionage, and the manipulation of export controls for the illicit diversion of dual-use technologies to increase the level of technologies and expertise available to support military research, development, and acquisition.
- In 2019, the PRC's efforts included efforts to acquire dynamic random access memory, aviation, and anti-submarine warfare (ASW) technologies.

In 2019, the PRC continued to supplement its national S&T and industrial modernization by obtaining foreign technologies and knowledge through a variety of means both licit and illicit. China is investing

in and seeking to acquire critical technologies that will be foundational for future innovations both for commercial and military applications, including AI, robotics, autonomous vehicles, quantum information sciences, augmented and virtual reality, financial technology, and biotechnology. The line demarcating products designed for commercial versus military purposes is blurring with these new technologies. *Imports*: China acquires dual-use, export controlled technology by applying for licenses through the U.S. Department of Commerce. The majority of China's imports have traditionally been electronic and materials processing and test, inspection, and production equipment.

Activities Supporting China's Military Modernization. The PRC is actively pursuing an intensive campaign to obtain foreign technology through imports, foreign direct investment, talent recruitment, and R&D and academic collaborations. The PRC uses a variety of licit means to acquire foreign technology and knowledge to supplement its S&T industrial base, including its military-industrial base. These efforts include:

- *Imports*. China acquires technology via imports and transfers from foreign industries. U.S. industry transfers dual-use export controlled technologies to China by applying for export licenses through the Department of Commerce.

- *Foreign Direct Investment*. China invests in or outright purchases foreign companies that have technology, facilities, and people working in key technology areas.

- *Talent Recruitment*. The PRC uses various incentive strategies to attract foreign personnel to work on and manage strategic programs and fill technical knowledge gaps. For example, Beijing's "Thousand Talents Program," recruits individuals from PRC diaspora populations, persons with familiar ties or ties of affection in the PRC, recent emigrants from the PRC, and foreign national experts whose recruitment the PRC views as necessary to its scientific and technical modernization, especially with regard to defense technology.

- *Research and Development and Academic Collaborations*. China actively seeks partnerships with private, government, and academic research labs to gain exposure to cutting-edge technology and researchers. These partnerships also provide China with the technical expertise to run, manage, and organize such facilities.

In several of these areas, China's methods and practices undermine the integrity of the U.S. science and technology research enterprise. These actions include hidden diversions of research and/or resources, undermining peer review and grant award processes, failing to provide reciprocity for scientists and institutions engaged in scientific research, and violating the principles of impartiality and

objectivity in scientific research that guard against improper influence and the distortion of scientific knowledge.

ESPIONAGE ACTIVITIES SUPPORTING CHINA'S MILITARY MODERNIZATION.

Multiple U.S. criminal indictments since 2015 involve PRC nationals, naturalized U.S. citizens or permanent resident aliens from the PRC, and U.S. citizens, procuring and exporting controlled items to China, according to a U.S. Department of Justice summary of major U.S. export enforcement, economic espionage, and sanctions-related criminal cases. The PRC's efforts to acquire sensitive, dual-use, or military-grade equipment included radiation hardened integrated circuits, monolithic microwave integrated circuits, accelerometers, gyroscopes, naval and marine technologies, syntactic foam trade secrets, space communications, military communication jamming equipment, dynamic random access memory, aviation technologies, and ASW technologies. Recent cases include:

> In October 2019, a PRC national was sentenced to 40 months in prison for conspiring to export military- and space-grade technology illegally from the United States to China. The PRC national worked with other individuals in China to purchase radiation-hardened power amplifiers and supervisory circuits used for military and space applications.

> In November 2018, a PRC national residing in the United States was charged with conspiring to export devices with military applications to PRC government and military actors. The PRC national fulfilled instructions from the PLA to obtain dual-use technology used for ASW and other advanced military capabilities. This included remotely operated side scan sonar systems, hydrophones, robotic boats, unmanned underwater vehicles, and unmanned surface vehicles.

> In October 2018, a group of PRC Ministry of State Security (MSS) intelligence officers, associated cyber actors, and other co-conspirators were indicted on charges of conspiring to steal sensitive technological information related to turbofan engines used in commercial airliners. At the time of the intrusions, a PRC state-owned enterprise (SOE) was developing a comparable engine for use in commercial aircraft manufactured in China and elsewhere.

> In October 2018, an MSS officer was arrested and charged with economic espionage involving the of trade secrets for civilian and military aircraft technology related to engineering services and signature material, advanced communication systems, jet engines and aircraft propulsion, and engine containment structures from leading U.S. aviation firms. In addition, the officer targeted industry experts for recruitment by facilitating travel to China under the guise of delivering

university presentations. The intelligence officer also provided monetary compensation and other forms of reimbursement to these experts.

> In September 2018, a PRC SOE was implicated in a conspiracy to commit economic espionage through the theft, conveyance, and possession of stolen trade secrets from a U.S. semiconductor company. The U.S. company is a global leader in the semiconductor industry and specializes in dynamic random-access memory (DRAM). China identifies DRAM development as a national priority.

Illicit Diversion of Dual-Use Technologies Supporting China's Military Modernization. One of the key tenets of the U.S. export control system is the expectation that the applicant, the foreign end-user and their affidavits on how the technology will be used are truthful and genuine. The PRC's laws and its Military Civil-Fusion Development Strategy, however, means that civil-end use exports can be diverted without the exporter's knowledge. The PRC's *National Intelligence Law* and *National Security Law* provide the legal authority for the PRC to compel civilian companies in China to hand over U.S. and other foreign-origin technologies, including dual-use technologies. MCF through top-down direction for deeper integration, resource sharing, and interoperability between China's civilian and military sectors further muddies the waters between a civil end user and military end user.

The PRC has learned how to structure exports in a manner to help it circumvent U.S. export controls, sometimes outright deceiving an exporter on the end user and end use and other times providing the exporter with the veneer of a legal end user and end use. For example, in 2012, a Western defense company plead guilty to violating the U.S. Arms Export Control Act for exporting restricted U.S. defense technology to China that was used in the development of the PLA's first modern military attack helicopter, the Z-10. According to the Department of Justice press release, China sought to develop its military attack helicopter under the guise of a civilian medium helicopter program in order to secure Western assistance. The release states that while the company knew that supplying China's Z-10 project with U.S.-origin components would be illegal, the PRC importer claimed it was developing a civilian version of the helicopter in parallel with the military version. Anticipating its work on China's military attack helicopter would open the door to a far more lucrative civilian helicopter market in China, the company "purposely turned a blind eye to the helicopter's military application." The company determined on its own that its exports for the Z-10 did not constitute "defense articles" requiring a U.S. export license. In 2018, a PRC national was charged with violating export laws for exporting 60 hydrophones, used to detect and monitor sound underwater, without obtaining export licenses and concealing that a military research institute in the PRC was the true end-user.

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U.S.-CHINA DEFENSE CONTACTS AND EXCHANGES

Key Takeaways

- DoD engagement with China supports overall U.S. policy and strategy toward China.
- DoD's defense contacts and exchanges with China in 2019, which included multiple senior level engagements, helped advance the Department's effort to build a constructive results-oriented defense relationship with China.

U.S. defense contacts and exchanges conducted in 2019 supported overall U.S. policy and strategy toward China. The 2017 *National Security Strategy*, the 2018 *National Defense Strategy*, the 2018 *Nuclear Posture Review*, and the 2019 *Missile Defense Review* recognize the growing trend of military competition in a dynamic security environment. The United States will compete from a position of strength while encouraging China to cooperate with the United States on security issues where our interests align. DoD engagements with China are limited, and focused, on reducing risk and preventing misunderstanding in times of increased tension. Engagements are conducted in accordance with the statutory limitations of the National Defense Authorization Act for Fiscal Year 2000, as amended.

Defense contacts and exchanges with China seek to build the structures and habits necessary to prevent, defuse, and manage crises. In 2019, DoD's plan for defense contacts and exchanges with China focused on three interconnected priorities: (1) encouraging China to act in ways consistent with the free and open international order; (2) promoting risk reduction and risk management to limit the potential for misunderstanding or miscalculation; and (3) establishing the communications mechanisms necessary to de-escalate incidents before they become crisis or conflict.

The pace and scope of the PRC's military modernization and expansion provides opportunities as well as challenges for U.S. defense relations. As the PRC's military develops and expands its reach globally, the risk of an accident or miscalculation also increases, putting a premium on risk reduction efforts and highlighting the need to ensure the operational safety of forces operating in close proximity, as well as the need to establish crisis communication mechanisms.

Pursuit of a constructive results-oriented relationship with China is an important part of U.S. strategy in the Indo-Pacific region. The 2018 *National Defense Strategy* seeks areas of cooperation with China from positions of U.S. strength, with a long-term objective to set the military-to military relationship on a path of strategic transparency and non-aggression, and to encourage China to act in a manner consistent with the free and open international order.

DEFENSE CONTACTS AND EXCHANGES IN 2019

Key Takeaways

- High-level contacts enable U.S. leaders to challenge PRC behaviors that are inconsistent with the free and open international order, gain insight into China's strategic intent, manage differences, and cooperate where our interests align.
- For example, the Secretary of Defense met with the PRC Minister of National Defense on the sidelines of multinational events several times during the year.
- Recurring exchanges serve as a mechanism for dialogue at the strategic and policy-levels, including risk reduction and practical cooperation.
- Functional engagements focus on risk reduction and communication to promote operational deconfliction and coordination.
- Exchanges improve the ability to interact and coordinate in providing international public goods in areas of mutual interest.

DoD conducts all contacts with China in a manner consistent with the relevant provisions of the National Defense Authorization Act for Fiscal Year 2000, as amended.

In 2019, the U.S. and China defense relationship focused on strategic communications and reducing the risk of misunderstanding or miscalculation.

DoD continued to make progress with the People's Liberation Army (PLA) in developing the capacity to cooperate in multilateral settings. The two militaries participated in a Disaster Management Exchange with an emphasis on deconfliction in a Multinational Coordination Cell. Such examples of defense engagement enable risk reduction and enhance understanding of how each side responds to humanitarian disasters. As the 2018 *National Defense Strategy* states, the United States is "open to opportunities for cooperation but from a position of strength and based on our national interests. Should cooperation fail, we will be ready to defend the American people, our values, and interests."

Selected visits and exchanges are below. A complete list of 2019 engagements is in Appendix II.

High-Level Visits and Engagements. High-level contacts are an important means to exchange views on the international security environment, to identify areas of common interest, to manage

differences, and to facilitate common approaches to shared challenges. Discussions focused on areas of military cooperation and candidly addressed differences.

Then-Acting Secretary of Defense Patrick Shanahan met General Wei Fenghe, Minister of National Defense, on the sidelines of the International Institute for Strategic Studies (IISS) Shangri-La Dialogue in Singapore on May 31. Additionally, Secretary of Defense Mark Esper met General Wei at the annual Association of Southeast Asian Nations (ASEAN) Defense Ministers' Meeting-Plus (ADMM-Plus) in Thailand in November. At both meetings, the Secretaries engaged on strategic topics, discussed differences, and affirmed a strong commitment to a constructive, stable, results-oriented bilateral relationship.

Chief of Naval Operations Admiral John Richardson visited Beijing in January 2019. However, the PRC delayed a counterpart visit in the United States between the Chief of the PLA's Joint Staff Department, General Li Zuocheng, and then-Chairman of the Joint Chiefs of Staff, General Dunford. Similarly, the PRC delayed a visit by the U.S. Indo-Pacific Command (USINDOPACOM) Commander to the PRC.

In 2019, the PRC accepted several requests for the use of the Defense Telephone Link (DTL) or Video Teleconference (VTC). Six high level VTCs occurred, including the first initiated by the PRC in May between the PLA's Office of International Military Cooperation Deputy Director, Major General Huang Xueping, and Acting Deputy Assistant Secretary of Defense for East Asia Mary Beth Morgan. The DTLs and VTCs contribute to establishing regular communications and confidence building between senior defense leaders. While these DTLs allow communications with the PLA, the Department continues to work to build the systems necessary to communicate rapidly and effectively to prevent incidents from escalating into crises.

In August 2019, Deputy Assistant Secretary of Defense for China (DASD) Chad Sbragia hosted a PRC delegation in Washington D.C. to discuss the contents of China's recently released defense white paper titled China's National Defense in the New Era. Major General Huang Xueping, Deputy Director of the Office of Interational Military Cooperation (OIMC) led the PRC delegation. The meeting was consistent with the Memoradum of Understanding on Notification of Major Military Activties Confidence Building Measure Mechanism to gain a better understanding of China's national defense policy. The U.S. delegation included representatives from the Office of the Secretary of Defense, the Joint Staff, the State Department, and the National Security Council staff.

In October 2019, DASD Chad Sbragia attended Beijing's Ninth Xiangshan Forum. DASD Sbragia offered brief remarks on "A Future-Oriented Asia-Pacific Security Architecture," and conducted official meetings Major General Huang Xueping (OIMC).

Recurrent Exchanges. Recurring exchanges form the backbone of U.S.-China defense discussions each year. They serve as regularized mechanisms for dialogue at the strategic and policy levels on risk reduction, crisis communication, and areas for cooperation.

In June 2019, the Military Maritime Consultative Agreement (MMCA) Working Group met in Qingdao to improve operational safety through open communication between U.S. and PLA naval and air forces. In November 2019, the MMCA Working Group and MMCA Plenary convened in Honolulu. Major General Stephen Sklenka, Director for Strategic Planning and Policy, USINDOPACOM, and representatives from U.S. Pacific Fleet, U.S. Pacific Air Forces, U.S. Africa Command (USAFRICOM), and U.S. Coast Guard met with a PLA Navy (PLAN) and PLA Air Force (PLAAF) delegation led by Rear Admiral Wu Dongzhu, PLAN Deputy Chief of Staff. Both sides reviewed the operational safety situation over the last year and discussed implementation and assessment of the Rules of Behavior for Safety of Air and Maritime Encounters Memorandum of Understanding.

The Defense Policy Coordination Talks (DPCT) are an annual dialogue, The 2019 DPCTs were postposed to January 2020. Deputy Assistant Secretary of Defense for China Chad Sbragia participated in the Defense Policy Coordination Talks in Beijing with Major General Huang Xueping, Deputy Director, Office for International Military Cooperation (OIMC). The U.S. delegation included representatives from the Joint Staff, USINDOPACOM, and the State Department. The leaders discussed how to reshape the U.S.-China military contacts and exchanges to achieve the goals of risk reduction, crisis communications, cooperation, and confidence building.

In May 2019. Assistant Secretary of Defense for Indo-Pacific Security Affairs Randall Schriver co-hosted the 3rd Asia-Pacific Security Dialogue (APSD) in Washington DC with Major General Ci Guowei, Director, OIMC. The U.S. delegation included representatives from Joint Staff, USINDOPACOM, and the State Department. The leaders discussed regional security issues, the South China Sea, North Korea, and the enforcement of United National Security Council Resolutions.

Functional and Academic Exchanges. Functional engagements focus on advancing risk reduction, understanding, and communication channels to promote deconfliction and coordination. Functional

exchanges such as port calls are also used to enhance operational safety and exercise communications and navigation protocols.

In March 2019, a U.S. Air Force Air War College delegation visited their PLA Air Force Command College counterparts in Beijing. In April, the U.S. National War College and China's National Defense University exchanged visits, with the U.S. National War College conducting a research seminar in China and China's National Defense University operational command course "Tigers" visiting the United States. In May, the U.S. Marine Corps War College visited China, followed by a visit to the United States by PLA general officers in the strategic-level "Dragons" course from the PLA National Defense University, and a visit by the PLA Air Force Command College to the U.S. Air Force Air War College. In June, PLA Navy Command College students visited the U.S. Naval War College. In July, the presidents of both countries' national defense universities conducted their biennial meeting, followed by the U.S. National Defense University CAPSTONE visit of new U.S. general and flag officers to China. In December 2019, the U.S. Naval War College visited the PLA Navy Command College as a reciprocal exchange event for the June visit. These visits and other academic exchanges during the year offered an opportunity to increase understanding of China and the Indo-Pacific through engagements with various echelons of the PLA.

In November 2019, PLA and U.S. Army soldiers participated in a Disaster Management Exchange in Hawaii. U.S. Army Pacific Commander, General Paul LeCamera, met with Major General Xu Qiling, Commander of the PLA Eastern Theater Command Army. The exchange focused on HADR in a volcano eruption scenario in a third country in which both armies would interact as part of a Multinational Coordination Center using the ASEAN standard operating procedures.

PLANNING FOR DEFENSE CONTACTS AND EXCHANGES IN 2020

A list of planned engagements for 2020 is provided in Appendix II. Although the U.S. and China agreed at the January 2020 Defense Policy Consultative Talks on a series of military contact events to occur during 2020, the ongoing COVID-19 pandemic has necessitated delaying or cancelling events.

SPECIAL TOPIC: THE PRC'S 2019 DEFENSE WHITE PAPER

In July 2019, the PRC's State Council Information Office released a new white paper on defense titled, *China's National Defense in the New Era*. Typically published biennially, this is the PRC's tenth defense white paper since 1998 and the first to be published since 2015, the same year the PRC began extensive reforms of its armed forces. The defense white papers represent authoritative statements from the PRC government on its defense and security policies. The PRC publishes these papers to portray itself as transparent and shape international and domestic perceptions in accordance with CCP-approved priorities. The white papers also amplify preexisting messaging, as the 2019 paper is largely consistent with remarks made by China's leaders at the 19th Party Congress in 2017, which set the CCP's expectations for the PLA in the "New Era."

In August 2019, the PLA dispatched delegations to brief the white paper to foreign audiences. PLA officials from the Central Military Commission's (CMC's) Office of International Military Cooperation led a delegation to brief audiences at the Pentagon, National Defense University, and Center for Naval Analyses.

Perceptions of the Global Security Environment. The PRC's defense white papers can offer insights into how China's leaders view global affairs. *China's National Defense in a New Era* claims that China remains in the "period of strategic opportunity," but describes the international security environment as marred by increased "strategic competition," the growing prospect of nuclear arms racing, and shifting towards greater multi-polarity. The paper primarily blames the United States for increasing global and regional tension, and characterizes U.S. pursuit of "absolute military supremacy" as increasing international strategic competition. This characterization of the United States differs from the PRC's 2015 defense white paper that vaguely referenced growing threats from "hegemonism." The paper repeated the PRC's longstanding policy of seeking unification with Taiwan while underscoring its right to use force against Taiwan if necessary, and specifically cited the Democratic Progressive Party of President Tsai Ing-wen as a primary source of hostility and a threat to peace, a first for a defense white paper. In response to its perceptions of the international security environment, the PRC elaborated its own vision for the international order in its concept of a "community with a shared future for mankind." Although China frequently describes its vision for this community, the latest defense white paper notably draws a direct link between the PRC's global military activities and the wellbeing of its community concept.

Justification for Expanding Overseas. The CMC has tasked the PLA with defending the PRC's overseas interests and citizens, and provides its justification in the defense white paper for the PLA's expanding global footprint. The paper states that in order to address deficiencies in overseas operations and support, the PRC has continued to improve its naval forces, develop overseas logistical facilities, and enhance the military's capability to complete diversified tasks. The paper also depicts the PLA's presence abroad as a benefactor to the regions where the PLA operates and the international

system as a whole, arguing that the international community is becoming more dependent on the PLA's support. The PLA base in Djibouti, for example, is touted for offering medical and military assistance, and for providing local donations to schools. Additionally, the paper portrays the PLA as positively contributing to UN peacekeeping operations, counterterrorism efforts, maritime security, and disaster relief as a provider of "international public security goods." Probably due to concerns generated by the PLA's expending presence and, the PRC's white paper tries to assure audiences that the PLA acts responsibly and appropriately while defending the PRC's interests.

Building a National Defense Policy System. China is developing a national defense policy and military policy decision-making and implementation system. It is an outcome of the major reforms the PLA has undergone since 2015, and this system was described as "the biggest difference compared to past white papers." The national defense policy system will provide the organization and authorities for the PLA to develop and implement policy. The system includes the 15 offices organized under the CMC staff and the recently formed theater commands. It is unclear how the Central National Security Commission (CNSC) is involved with this system.

Status of 2020 Milestones (Mechanization and Reform). The PLA might be unable to meet some of its near-term modernization and reform milestones that it planned to achieve by 2020. Among the PLA's modernization goals set by the CCP leadership is to "generally achieve mechanization" by 2020. However, the PRC's 2019 defense white paper noted that the PLA had "yet to complete the task of mechanization," suggesting it was also unlikely that the PLA would achieve this goal by the end of 2020. Additionally, PLA officials have indicated that the third (and final) stage of PLA reforms would take place in 2021 or 2022. The PRC's original timetable from late 2015 for the completion of the PLA's reforms indicated that 2020 was the target for completion. References to 2021 or 2022 may imply the PLA is a year or two behind in completing its reforms. Both of these years are significant for the Party and its strategy. The Party aims for China to achieve its "moderately prosperous society" goal by the CCP's centenary in 2021. The CCP will also hold its 20th Party Congress in 2022.

SPECIAL TOPIC: PLA'S APPROACH TOWARD INFORMATIZATION AND INTELLIGENTIZATION, INCLUDING ARTIFICIAL INTELLIGENCE

The People's Liberation Army (PLA) sees emerging technologies as driving a shift to "intelligentized" warfare from today's "informatized" way of war. PLA strategists broadly describe intelligentized warfare as the operationalization of artificial intelligence (AI) and its enabling technologies, such as cloud computing, big data analytics, quantum information, and unmanned systems, for military applications. These technologies, according to PRC leaders—including Chairman Xi Jinping—represent a "Revolution in Military Affairs" for which China must undertake a whole-of-government approach to secure critical economic and military advantages against advanced militaries.

China seeks to lead the shift to "intelligentized warfare" through its Military-Civil Fusion (MCF) Development Strategy and by reforming both its research and development (R&D) as well as strategy and doctrine organizations. In 2015, the PRC elevated MCF to a national strategy, and it continues to establish new organizations and promulgate policies to drive development of dual-use technologies and further integrate civilian and military administration. In 2017, the PLA reorganized its military research and education institutes to synchronize advances in emerging technologies with the development of new operational concepts. The Academy of Military Science (AMS), which has traditionally been responsible for writing new doctrine, now oversees several PLA science and technology institutes.

The PLA argues that the implementation of "intelligentized" capabilities will increase the speed of future combat, necessitating more rapid processing and fusing of information to support quick and efficient command decision making. Victory in future warfare, according to PLA strategists, will depend upon which side can more quickly and effectively observe, orient, decide, and act in an increasingly dynamic operating environment. As a result, China is pursuing new technologies like AI to support future military capabilities, such as autonomous command and control (C2) systems, more sophisticated and predictive operational planning, and intelligence, surveillance, and reconnaissance (ISR) fusion. In addition, the PLA is developing more capable command information systems and decision aids for battlefield commanders. Future command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) systems will seek to use AI to collect, fuse, and transmit big data for more effective battlespace management and to generate optimal courses of action.

PLA strategists recognize the importance of information superiority during a conflict. The PLA has emphasized the need for the capabilities to target and degrade adversary command and control systems and future AI systems. As such, the PLA plans to employ technologies associated with intelligentized warfare to support the deployment of autonomous unmanned systems and conduct information operations (IO). PRC weapons developers are researching new unmanned aerial, surface, sub-surface, and ground vehicles that will enable new operational concepts and require new C2 models. The PLA is pursuing greater autonomy for unmanned platforms, to include swarm intelligence and

manned-unmanned teaming capabilities, to provide more lethal kinetic that and nonkinetic strike options that can saturate adversary defenses as well as more survivable and long-distance ISR capabilities, among other applications. The PLA also intends to improve its cyber and electronic warfare (EW) capabilities through AI-assisted network vulnerability analysis, countermeasure identification, and electromagnetic spectrum management.

PLA discussions of "intelligentized warfare" also acknowledge the difficulties of developing future technologies and implementing new capabilities. The delegation of decision-making authorities to lower echelons may run counter to the PLA's traditionally hierarchical and centralized C2 structure. The PLA's ability to leverage big data will depend upon its ability to obtain large quantities of high-quality data on foreign militaries. Additionally, the complexity of future conflict probably will challenge the PLA to recruit, train, and retain the highly competent and technically proficient personnel necessary to understand and operate future "intelligentized" systems.

SPECIAL TOPIC: EMERGING MILITARY CAMPAIGN CONCEPTS

The People's Liberation Army's (PLA) will likely need to update its existing doctrine, concepts, and campaigns to adapt to the long-term trends in global military affairs, meet the PRC's evolving national security needs, and account for the significant changes in the PLA's structures and capabilities. Evolving campaign concepts will aim to advance the PLA's goal to become a fully modern and "informatized" force by 2035. Going forward, PLA strategists envision further improving joint operations and shifting towards "intelligentized warfare," defined by the application of artificial intelligence (AI) and other advanced technologies, driving additional campaign development.

As PRC leaders push the PLA to operate in defense of China's expanding national interests, the PLA will develop concepts and capabilities to conduct force projection and defensive operations that expand China's strategic space farther from mainland China. New PLA campaign concepts also will attempt to integrate these new missions and capabilities across theater commands and in new domains, like cyber and space. For example, the creation of the Strategic Support Force (SSF) and the PLA's growing cyber, space, and electronic warfare (EW) capabilities will require campaigns that expand upon PLA notions of space confrontation operations by integrating space and terrestrial activates into multi-domain joint operations. Future campaigns may also integrate far seas air and naval operations. PLA strategists also discuss the need to secure air, maritime, and information superiority at greater distances, which could entail campaign concepts that integrate joint forces—possibly to include forces deployed to overseas bases—to execute operations abroad, such as in the western Pacific and Indian Ocean. These operations will require a mature command and control (C2) organizations and processes for overseas operations that effectively divide responsibilities between the Central Military Commission (CMC), theater commands, and services.

What is a Campaign?

The PLA has developed a series of "campaigns" that outline operational military activities to achieve China's strategic objectives. These campaigns incorporate activities across the PLA for contingencies ranging from border defense to large-scale multinational war. PLA joint campaigns—those that feature forces of two or more services under a joint command, like a theater command—include offensive campaigns, such as joint firepower strike, island blockade, or island offensive operations, and defensive campaigns like air defense, border defense, and counter-landing operations.

Future campaigns could also include guidance to conduct non-war military activities (NWMA) and operate with foreign militaries. Overseas operations, such as the PLA's participation in peacekeeping operations, can help the PLA develop tactics, techniques, and procedures to inform future campaigns that include humanitarian assistance/disaster relief (HA/DR) and noncombatant evacuation operations. In addition, an increase in bilateral and multilateral engagement with foreign militaries, including Russia, Pakistan, and the Association of Southeast Asian Nations (ASEAN) can improve the PLA's ability to organize and manage combined operations that integrate foreign forces.

APPENDIX I: CHINA AND TAIWAN FORCES DATA

The data in this year's report is derived from a new methodology that may result in significantly different numbers than shown in previous reports, but does not necessarily reflect a sudden change in capability.

Taiwan Strait Military Balance, Ground Forces

	China		Taiwan
	Total	*Eastern and Southern Theaters*	*Total*
Total Ground Force Personnel	1,030,000	412,000	88,000**
Group Armies	13	5	3
Combined Arms Brigades	78	30 (6 amphibious)	N/A
Mechanized Infantry Brigades	N/A		3
Motorized Infantry Brigades			6
Armor Brigades			4
Air Assault/Army Aviation Brigades	15	5	2
Artillery Brigades	15	5	3
Airborne Brigades	7*	7	0
Marine Brigades	8*	4	3
Tanks	6,300		800
Artillery Pieces	6,300		1,100

Note: For the purposes of this document, the "Taiwan Strait Area" includes the PLA's Eastern and Southern Theater Commands.

*Although counted as ground forces for the purposes of this chart, China's airborne brigades belong to the PLA Air Force (PLAAF) Airborne Corps and the marine brigades to the PLA Navy Marine Corps (PLANMC).
**Counts only active-duty Army personnel.

Taiwan Strait Military Balance, Naval Forces

	China		Taiwan
	Total	*Eastern and Southern Theater*	*Total*
Aircraft Carriers	2	1	0
Cruisers	1	0	0
Destroyers	32	23	4
Frigates	49	37	22
Corvettes	49	39	0
Tank Landing Ships/ Amphibious Transport Dock	37	35	14
Medium Landing Ships	21	16	0
Diesel Attack Submarines	46	32	2
Nuclear Attack Submarines	6	2	0
Ballistic Missile Submarines	4	4	0
Coastal Patrol (Missile)	86	68	44
Coast Guard Ships	255*	N / A	23

Note: In the event of a major Taiwan conflict, the PLA's Eastern and Southern Theater Navies would participate in direct action against the Taiwan Navy. The Northern Theater Navy (not shown) would be responsible primarily for protecting the sea approaches to China, but could provide mission-critical assets to support the other fleets. In conflict, China may also employ China Coast Guard (CCG) and People's Armed Forces Maritime Militia (PAFMM) ships to support military operations.

*China's coast guard ships belong to the China Coast Guard (CCG), which is subordinate to the People's Armed Police (PAP).

Taiwan Strait Military Balance, Air Forces

	China		Taiwan
	Total	*Eastern and Southern Theater*	*Total*
Fighters	1,500 (2,700*)	600 (750*)	400 (500*)
Bombers/Attack	450	250	0
Transport	400	20	30
Special Mission Aircraft	150	100	30

Note: This chart displays estimated totals of operational military aircraft from both PLAAF and PLAN Aviation. However, the PLAAF may supplement its military transports with civilian aircraft in a combat scenario. Note that approximately 800 of the PLAAF/PLAN Aviation's total fighters are at least modern fourth-generation aircraft.

*The totals in parentheses include fighter trainers.

China's Rocket Force

System	*Launchers*	*Missiles*	*Estimated Range*
ICBM	100	100	>5,500km
IRBM	200	200+	3,000-5,500km
MRBM	150	150+	1,000-3,000km
SRBM	250	600+	300-1,000km
GLCM	100	300+	>1,500km

APPENDIX II: DEFENSE CONTACTS AND EXCHANGES

U.S.-CHINA MILITARY-TO-MILITARY CONTACTS FOR 2019	
HIGH-LEVEL VISITS TO CHINA	***Month (2019)***
Chief of Naval Operations	January
ENGAGEMENTS	
PRC Defense White Paper Delegation in the United States	August
Beijing's Ninth Xiangshan Forum	October
RECURRENT EXCHANGES	
Asia Pacific Security Dialogue in the United States	May
Military Maritime Consultative Agreement Working Group in China and the Working Group and Plenary in the United States	June / November
Defense Policy Coordination Talks in China	January 2020
ACADEMIC EXCHANGES	
U.S. Air War College Delegation to China	March
U.S. National War College Delegation to China	April
PLA National War College Delegation to the United States	April
PLA Air Force Command College Delegation to United States	May
U.S. Marine Corps War College Delegation to China	May
PLA National Defense University Delegation to United States	May
PLA Navy Command College Delegation to the United States	June
National Defense University Presidents Meeting	July
U.S. National Defense University CAPSTONE Delegation to China	July
U.S. Naval War College Delegation to China	December
FUNCTIONAL EXCHANGES	
Disaster Management Exchange in China	November

U.S.-CHINA MILITARY-TO-MILITARY EXCHANGES PLANNED FOR 2020

HIGH-LEVEL VISITS TO CHINA

U.S. Senior Defense or Military Leader to China (TBD)

HIGH-LEVEL VISITS TO UNITED STATES

PRC Senior Defense or Military Leader to the United States (TBD)

PLA Navy Delegation to International Sea Symposium
Commander, Southern Theater

INSTITUTIONALIZED EXCHANGES

Defense Policy Coordination Talks (TBD)

MMCA Plenary and Working Groups (TBD)

Defense Consultative Talks (TBD)

Asia-Pacific Security Dialogue (TBD)

ACADEMIC EXCHANGES

PRC Academy delegation to the United States (TBD)

U.S. NDU or Academy delegation to China (TBD)

FUNCTIONAL EXCHANGES

Disaster Management Exchange (TBD)

APPENDIX III: SELECTED PLA BILATERAL AND MULTILATERAL EXERCISES IN 2019

Selected PLA Bilateral and Multilateral Exercises in 2019		
Exercise Name	**Type of Exercise**	**Participants**
WARRIOR VI	Counter-terrorism	Pakistan
Joint Strike-2019	Counter-terrorism	Thailand
Aman-2019	Multi-national naval exercise	Pakistan
Golden Dragon-2019	Joint exercise	Cambodia
Joint Maritime Drill-2019	Multi-national naval exercise	ASEAN
Joint Sea-2019	Naval exercise	Russia
Blue Commando-2019	Naval exercise	Thailand
Khan Quest 2019	Multi-national PKO exercise	Mongolia
Combined Aid	Medical exercise	Germany
Exercise Cooperation	Counter-terrorism	Singapore
Cooperation-2019	Counter-terrorism	Tajikistan
Peace Train-2019	Humanitarian / medical exercise	Laos
Falcon Strike-2019	Air exercise	Thailand
TSENTR-2019	Multi-national joint exercise	Russia
Sincere Partners-2019	Joint land forces training	Tanzania
Shaheen VIII	Air exercise	Pakistan
Fox Hunting-2019	Counter-terrorism	Kazakhstan
Mosi-2019	Maritime security and trade, HA/DR	Russia, South Africa
Maritime Security Belt-2019	Counter-piracy	Russia, Iran

APPENDIX IV: CHINA'S TOP CRUDE SUPPLIERS IN 2019

China's Top Crude Suppliers 2019		
Country	**Volume (1,000 barrels/day)**	**Percentage of Imported Crude Oil**
Saudi Arabia	1,669	16
Russia	1,555	15
Iraq	1,037	10
Angola	949	9
Brazil	804	8
Oman	678	7
Kuwait	454	4
UAE	306	3
Iran	296	3
Colombia	263	3
Others	2,120	21
Total	**10,131**	**99**

Numbers may not equal 100, as figures have been rounded.

APPENDIX V: ACRONYMS

3PLA	General Staff Department's Third Department
4PLA	General Staff Department's Fourth Department
5G	fifth-generation
A2/AD	anti-access/area-denial
AAM	air-to-air missile
AEW&C	airborne early warning and control
AGI	intelligence collection ship
AGOS	ocean surveillance ship
AI	artificial intelligence
ALBM	air-launched ballistic missile
ALCM	air-launched cruise missile
AMS	Academy of Military Science
AOE	fast combat support ship
AOR	replenishment oiler
APT	Advanced Persistent Threat
ASAT	anti-satellite
ASBM	anti-ship ballistic missile
ASCM	anti-ship cruise missile
ASEAN	Association of Southeast Asian Nations
ASM	air-to-surface missile
ASW	anti-submarine warfare
AU	African Union
AVIC	Aviation Industry of China
BMD	ballistic missile defense
BRICS	Brazil, Russia, India, China, and South Africa
C2	command and control
C4I	command, control, communications, computers, and intelligence
C4ISR	command, control, communications, computers, intelligence, surveillance, and reconnaissance
CAS	China Academy of Sciences
CCG	China Coast Guard
CCP	Chinese Communist Party
CG	guided-missile cruiser
CMC	Central Military Commission
CNSC	Central National Security Commission
COMAC	Commercial Aircraft Corporation of China
DDG	guided-missile destroyer
DoD	Department of Defense

DRAM	dynamic random-access memory
EEZ	exclusive economic zone
EW	electronic warfare
FFG	guided-missile frigate
FFL	corvette
FOCAC	Forum on China-Africa Cooperation
FYP	Five-Year Plan
GPS	Global Positioning System
HA/DR	humanitarian assistance/disaster relief
IADS	integrated air defense system
ICBM	intercontinental ballistic missile
ICT	information and communications technology
IO	information operations
IP	intellectual property
IRBM	intermediate-range ballistic missile
ISR	intelligence, surveillance, and reconnaissance
JLSF	Joint Logistic Support Force
LACM	land-attack cruise missile
LHA	amphibious assault ship
LOW	launch-on-warning
LPD	amphibious transport dock
MARV	maneuverable reentry vehicle
MCF	military-civil fusion
MIRV	multiple independently targetable reentry vehicle
MOOTW	military operations other than war
MPS	Ministry of Public Security
MRBM	medium-range ballistic missile
MSS	Ministry of State Security
NFU	No First Use
NDU	National Defense University
NORINCO	North Industries Corporation
NPC	National People's Congress
NWMA	non-war military activities
OBOR	One Belt, One Road
OTH	over-the-horizon
PAFMM	People's Armed Forces Maritime Militia
PAP	People's Armed Police
PKO	peacekeeping operations
PLA	People's Liberation Army
PLAA	PLA Army

PLAAF	PLA Air Force
PLAN	PLA Navy
PLANMC	PLA Navy Marine Corps
PLARF	PLA Rocket Force
PRC	People's Republic of China
R&D	research and development
RCEP	Regional Comprehensive Economic Partnership
RIMPAC	Rim of the Pacific
S&T	science and technology
SAM	surface-to-air missile
SLBM	submarine-launched ballistic missile
SLOC	sea line of communication
SLV	space launch vehicle
SOE	state-owned enterprise
SOF	special operations forces
SRBM	short-range ballistic missile
SS	diesel-powered attack submarine
SSBN	nuclear-powered ballistic missile submarine
SSF	Strategic Support Force
SSN	nuclear-powered attack submarine
SSP	air- independent-powered attack submarine
THAAD	terminal high-altitude area defense
TRA	Taiwan Relations Act
UAV	unmanned aerial vehicle
UGF	underground facility
USAFRICOM	U.S. Africa Command
USINDOPACOM	U.S. Indo-Pacific Command
USTR	U.S. Trade Representative
UN	United Nations
WTO	World Trade Organization
ZTE	Zhongxing Telecommunications Company Ltd.